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United States Government **Department of Energy**

Oak Ridge Operations

memorandum

DATE: March 4, 1998

REPLY TO ATTN OF: EF-21:Rafferty

SUBJECT: **OHIO ENVIRONMENTAL PROTECTION AGENCY (EPA) DIRECTOR'S FINAL FINDINGS AND ORDERS (DFF&O)**

TO: J. W. Parks, Assistant Manager for Enrichment Facilities, EF-20/ORO

Attached is a copy of the Ohio EPA DFF&O, which was journalized on February 24, 1998. This DFF&O was issued to both DOE and LMES and sets the terms, conditions, and schedules for the management and storage of depleted uranium hexafluoride and lithium hydroxide at PORTS.

Questions regarding this matter should be addresed to Melda Rafferty at (740) 897-5521.

Eugene W. Gillespie
Site Manager
Portsmouth Site Office

1 Attachment

cc:
R. Miskelley, CC-10/ORO
B. Cook, NE-40/GTN
T. David Taylor, LMES/PORTS
Administrative Records (J. Croswait, X-7735, MS-7614)

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

February 24, 1998

Re: Director's Final Findings & Orders
United States Department of Energy
Portsmouth Gaseous Diffusion Plant
Lockheed Martin Energy Systems, Inc.
Piketon, Ohio
US EPA ID No.: OH7 890 008 983

Gene Gillespie, Manager
U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant
P.O. Box 700
Piketon, Ohio 45661-0700

Rebecca Bell, Esq.
Lockheed Martin Energy Systems, Inc.
P.O. Box 2003
Oak Ridge, Tennessee 37831-8014

CERTIFIED MAIL

Dear Mr. Gillespie and Ms. Bell:

Transmitted herewith are Final Findings & Orders of the Director concerning the matter indicated.

Sincerely yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Hazardous Waste Management

TEC/dhs

cc: Mark Navarre, Acting Chief Counsel
Michael Savage, Asst. Chief, DHWM
Pamela Allen, Manager, CAS, DHWM
Edwin Lim, Manager, RECS, DHWM
Steve Hamlin, DHWM, SEDO
Donna Goodman, DHWM, SEDO
Beth Gianforcaro, PIC
Jim Payne, AGO

Issue Date: February 24, 1998

Effective Date: February 24, 1998

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

United States Department of Energy *Portsmouth Gaseous Diffusion Plant* P.O. Box 700 Piketon, Ohio 45661-0700	:	Director's Final Findings and Orders
Lockheed Martin Energy Systems, Inc. *Portsmouth Gaseous Diffusion Plant* P.O. Box 628 Piketon, Ohio 45661-0628	:	

Respondents

It is hereby agreed by and among the Parties hereto as follows:

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are issued to the United States Department of Energy ("Respondent DOE") and Lockheed Martin Energy Systems, Inc. ("Respondent LMES") pursuant to the authority vested in the Director of Environmental Protection ("Director") under Chapter 3745, and the hazardous

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.
By: Jana L Clements Date 2-24-98

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waste laws in Chapter 3734, of the Ohio Revised Code ("ORC"). Orders number 1 and 3 of these Orders are issued pursuant to ORC Sections 3734.11 and 3734.13. Orders number 2 and 3 of these Orders are issued pursuant to ORC Section 3734.02(G).

II. PARTIES BOUND

These Orders shall apply to and be binding upon the Respondents, their assigns, and successors in interest. With respect to Respondent DOE, no change in ownership or operation of the Facility will in any way alter Respondent DOE's responsibilities under these Orders, except as otherwise provided by law. The obligations of Respondent LMES under these Orders shall terminate when LMES is no longer responsible pursuant to contract with DOE to perform work under these Orders; provided, however that this Section of the Orders does not absolve LMES from any liability for any violation which occurs prior to the termination of said contract. Except as otherwise expressly provided herein, Respondents' obligations under these Orders may be altered only by written approval of the Director.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as used in Chapter 3734. of the ORC and the regulations promulgated thereunder.

Party:
The term "Party" means DOE, LMES or Ohio EPA.

Parties:
The term "Parties" means DOE, LMES and Ohio EPA.

IV. FINDINGS OF FACT

The Director of Environmental Protection hereby makes the following findings:

1. Respondent DOE owns the Portsmouth Gaseous Diffusion Plant, a uranium enrichment facility, located in Pike County, Ohio, approximately twenty (20) miles north of the City of Portsmouth ("Facility").

2. Respondent LMES, formerly known as Martin Marietta Energy Systems, Inc., is a Delaware corporation licensed to do business in the State of Ohio on March 2, 1984. Respondent LMES has contracted with DOE to carry out certain day-to-day operations of the Facility in accordance with general directions given by DOE. Respondent LMES' responsibilities include, but are not limited to, the following: waste analysis and handling, monitoring, record keeping, reporting, and contingency planning. The United States Enrichment Corporation ("USEC") has, since July 1, 1993, leased and operated the uranium enrichment facilities and activities at the Facility.

3. The Respondents are each a "person" as defined in ~~Sections 1.59 and~~ 3734.01 of the ORC and rule 3745-50-10 of the Ohio Administrative Code ("OAC").

4. Respondent DOE has generated and Respondents now operate storage facilities for Respondent DOE's depleted uranium hexafluoride ("DUF_6") and lithium hydroxide ("LiOH") at the Facility. The Ohio Environmental Protection Agency ("Ohio EPA") has determined that the DUF_6 and LiOH are each a "waste" as that term is defined by ORC Section 3734.01 and OAC rules 3745-50-10 and 3745-51-03, and therefore, that Respondents are subject to the waste evaluation requirements in OAC rule 3745-52-11 for Respondent DOE's DUF_6 and LiOH stored at the Facility.

5. By letter dated December 20, 1990, and subsequent letters, Ohio EPA notified Respondent DOE that Ohio EPA had determined that Respondent DOE failed to evaluate the DUF_6 stored at the Facility, in violation of OAC rule 3745-52-11. By letter dated October 25, 1991, and subsequent letters, Ohio EPA notified

Respondent DOE that Ohio EPA had determined that Respondent DOE failed to evaluate its LiOH stored at the Facility, in violation of OAC rule 3745-52-11.

6. Respondent DOE responded and notified Ohio EPA that Respondent DOE disagrees with Ohio EPA's determination that the DUF_6 and LiOH are wastes, and that Respondent DOE disagrees with Ohio EPA's determination that Respondent DOE is subject to and in violation of the waste evaluation requirements in OAC rule 3745-52-11 for its DUF_6 and LiOH stored at the Facility. Respondent DOE reserves these objections, notwithstanding Respondent DOE's agreement to these Orders.

7. On November 10, 1994, Respondent DOE published an announcement of its intent to prepare an environmental impact statement concerning DUF_6 including an evaluation of potential use or reuse of DUF_6 (59 FED. REG. 56324 et seq.).

8. Since July 1, 1993, USEC has generated and continues to generate DUF_6 at the Facility. During this same period, USEC has operated and continues to operate storage facilities for its DUF_6 generated at the Facility.

9. Contracts have been entered into for the sale of all of the LiOH stored at the Facility to six (6) private firms for commercial uses. By the terms of the contracts, all of the LiOH will be removed from the Facility by the end of June 2001.

10. Once the LiOH is removed from the Facility for use in a production process, Ohio EPA will no longer consider the LiOH removed from the Facility to be a waste.

11. Pursuant to ORC Section 3734.02(G), the Director of Ohio EPA may by order exempt any person generating, storing, treating, transporting or disposing of hazardous waste in such quantities or under such circumstances that, in the Director's determination, it is unlikely that public health or safety or the environment will be adversely affected thereby, from any requirement to obtain

a permit or license or comply with the manifest system or other requirements of ORC Chapter 3734.

12. Pursuant to ORC Section 3734.02(G), the Director has determined that it is unlikely that public health or safety or the environment will be adversely affected by the Respondents not evaluating the DUF_6, both generated and stored at the Facility, and the LiOH in storage at the Facility, provided that the Respondents comply with the requirements set forth in the following orders.

V. ORDERS

The Director hereby issues the following Orders:

Compliance Orders

1. A. LiOH

i Respondents shall implement and comply with the LiOH Storage Plan contained in Exhibit A attached to these Orders, and any future amendments thereto approved by Ohio EPA, in accordance with the terms, conditions and schedules contained therein. The LiOH Storage Plan is incorporated by reference herein.

ii. Respondent DOE shall continue to make good faith efforts to remove the LiOH from the Facility under the existing sales contracts or to otherwise sell, market, use or reuse the LiOH.

iii. On or before the 31st day of December, of each year Order 1 remains in effect, Respondent DOE shall submit to Ohio EPA a written Annual Report for the previous federal fiscal year that summarizes Respondent DOE's good faith efforts to remove the

LiOH from the Facility under the existing sales contracts or to otherwise sell, market, use or reuse the LiOH.

B. DUF_6

i. Respondents shall implement and comply with the DUF_6 Management Plan contained in Exhibit B attached to these Orders, and any future amendments thereto approved by Ohio EPA, in accordance with the terms and conditions contained therein. The DUF_6 Management Plan is incorporated by reference herein.

ii. Respondent DOE shall make good faith efforts to evaluate potential use or reuse of the DUF_6.

iii. On or before the 31st day of December, of each year Order 1 remains in effect, until DOE's evaluation is completed, DOE shall submit to Ohio EPA a written Annual Report for the previous federal fiscal year that summarizes Respondent DOE's good faith efforts to evaluate potential use or reuse of the DUF_6.

C. Amendment of Plans

i. If Respondents or Ohio EPA identifies a need for Respondent to amend the approved LiOH Storage Plan or the approved DUF_6 Management Plan, the Respondents or Ohio EPA shall provide written notification of such need and the reasons therefore. The notification shall be of sufficient detail to fully explain the rationale and circumstances that justify such amendment. Such need to amend the approved DUF_6 Management Plan may include transfer of ownership to Respondent DOE of DUF_6 generated by USEC at the Facility.

ii. Within thirty (30) days of the date of such written notification, or within such other time as agreed by Ohio EPA and Respondents, Respondents shall submit an amended plan to Ohio EPA for review and approval. If Respondents do not have sufficient information on the proposed amendment in order to submit an amended plan within the required time frame, Respondents may propose an alternative schedule for submitting an amended plan.

iii. In reviewing any proposed amendment, Ohio EPA agrees to consider all reasons provided by Respondents in support of their proposed amendment, including available funding. If Ohio EPA does not expect to approve the proposed amendment, Ohio EPA will provide Respondents with a written statement explaining the reasons. Prior to sending Respondents a written statement explaining the reasons it does not expect to approve the proposed amendment, Ohio EPA will consult with Respondents regarding the proposed amendment.

iv. Within thirty (30) days of Respondents' receipt of such written statement explaining the reasons, or within such other time agreed by Ohio EPA and Respondents, Respondents shall submit a revised amended plan, submit a new amended plan, or submit a written statement explaining Respondents' reasons for not submitting an amended plan.

v. Ohio EPA will notify Respondents in writing, in a timely manner, of its approval or disapproval of the amended plan. The amended plan shall be enforceable in the same manner as the approved plans attached to these Orders. Prior to any disapproval of a proposed amendment, Ohio EPA will consult with Respondents regarding the proposed amendment. Any determination by Ohio EPA to disapprove a proposed amendment will be accompanied by a written statement detailing the reasons for disapproval.

vi. If any Party disagrees with a written notification of the need to amend either plan, or if Respondents disagree with any Ohio EPA decisions made according to Order 1.C., any Party may initiate the dispute resolution procedures of Section VIII.

D. Duty to Perform

Except as expressly provided in these Orders, Respondents shall cause all work to be performed in accordance with the LiOH Storage Plan and DUF_6 Management Plan. It is the responsibility of Respondent DOE to provide necessary funding to implement the LiOH Storage Plan and DUF_6 Management Plan.

Exemption Orders

2. A. An exemption from the requirement to evaluate the LiOH, according to OAC rule 3745-52-11, is hereby granted to Respondents.

B. An exemption from the requirement to evaluate the DUF_6 that is both generated and stored at the Facility, according to OAC rule 3745-52-11, is hereby granted to Respondents.

C. The exemption provided by these Orders shall not be construed to apply to any release to the environment, or any treatment or disposal of LiOH or DUF_6, except for releases that are cleaned up according to the approved LiOH Storage Plan and the approved DUF_6 Management Plan.

Expiration

3. A. The exemption for LiOH and the Respondents obligations under Order 1.A. shall expire when any one of the following events occur: (1) the

LiOH is no longer stored at the Facility; (2) ten years have passed since the effective date of these Orders; (3) the Respondents evaluate the LiOH according to OAC rule 3745-52-11; or (4) the Director evokes the exemption in Order 2.A. of these Orders.

B. The exemption for DUF_6 and the Respondents' obligations under Order 1.B. shall expire when any one of the following events occur: (1) the DUF_6 is no longer stored at the Facility; (2) ten years have passed since the effective date of these Orders; (3) the Respondents evaluate the DUF_6 according to OAC rule 3745-52-11; or (4) the Director revokes the exemption in Order 2.B. of these Orders. However, if a DUF_6 cylinder breach is discovered during the term of these Orders, the Respondents' obligations under Section III.B. of the DUF_6 Management Plan contained in Exhibit B attached to these Orders shall continue until all work required by that Section with respect to that breach is completed.

C. If any Party expects an exemption to expire due to the passage of ten years, the Parties agree to meet and confer in good faith, upon request of any Party, to discuss the possibility of renewing the exemption.

VI. PROJECT MANAGERS

Ohio EPA's Project Manager is Donna Goodman of Ohio EPA's Southeast District Office. Respondent DOE's Project Manager is Melda Rafferty. Respondent LMES' Project Manager is the LMES-Portsmouth Site Manager. Either Party may change its designated Project Manager by notifying the other Party, in writing, ten (10) business days before the change if possible.

Each Project Manager shall be the primary contact regarding the implementation of these Orders. The Project Managers shall meet periodically, as appropriate, to discuss progress and problems regarding the implementation of these Orders.

VII. NOTICE

All documents to be submitted pursuant to these Orders shall be submitted to the following persons at the following addresses:

Ohio EPA:

Ohio Environmental Protection Agency
Southeast District Office
Division of Hazardous Waste Management
Attn: RCRA Group Leader
2195 Front Street
Logan, OH 43138

and

Ohio Environmental Protection Agency
Division of Hazardous Waste Management
Attn: Manager, Compliance Assurance Section
1800 WaterMark Drive
Columbus, Ohio 43215-1099

LMES:

Lockheed Martin Energy Systems, Inc.
Portsmouth Gaseous Diffusion Plant
Attn: Portsmouth Site Manager
P.O. Box 628
Piketon, OH 45661-0628

DOE:

U.S. DOE, Portsmouth Gaseous Diffusion Plant
Attn: Portsmouth Site Manager
P.O. Box 700
Piketon, OH 45661-0700

or to such persons and addresses as may hereafter be otherwise specified in writing.

VIII. DISPUTE RESOLUTION

A. The procedures of this Section shall apply to any good faith dispute arising under these Orders. For purposes of this section, the term "Respondents" means DOE, LMES or both.

B. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, Respondents and Ohio EPA shall make reasonable efforts to informally resolve the dispute at the project manager level. If resolution cannot be achieved informally, the disputing party may elevate the dispute for resolution pursuant to paragraph C. of this section. If Respondents do not submit a written notification of dispute to Ohio EPA within thirty (30) days of the occurrence of the circumstances giving rise to the dispute, Respondents shall be deemed to have accepted the position of Ohio EPA.

C. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, any Party may initiate formal dispute resolution under this paragraph. To initiate formal dispute resolution, the disputing party shall submit to the

other parties a written notification of the dispute. The written notification of the dispute shall specify the nature of the dispute, the work affected by the dispute, the disputing party's position with respect to the dispute and the information the disputing party is relying upon to support its position.

D. Within thirty (30) days of written notification of a dispute, the Project Managers and designated representatives of the parties shall attempt to resolve such dispute. For DOE, the designated representative(s) shall include the DOE-Portsmouth Site Manager. For LMES, the designated representative(s) shall include the LMES-Portsmouth Site Manager. For Ohio EPA, the designated representative(s) shall include the Assistant Chief of the Division of Hazardous Waste Management.

E. Within thirty (30) days of written notification of the dispute, if the Project Managers and designated representatives of the Parties are unable to resolve the dispute, any Party may submit a written statement of the dispute to Ohio EPA's Chief of the Division of Hazardous Waste. The Chief may meet with the Project Managers and designated representatives of the Parties and may request additional information regarding the nature of the dispute and the respective positions of the Parties. Within thirty (30) days of receipt of the written statement of dispute, the Chief will consult with the DOE-Portsmouth Site Manager and the LMES-Portsmouth Site Manager.

The Chief will notify the Project Managers and designated representatives of the Parties in writing of Director's final decision regarding the dispute. The Director's final decision shall be signed by the Director. Except as otherwise provided under paragraph F. below, the Director's final decision shall be binding on the Parties, subject to administrative or judicial appeal or review according to applicable law.

F. Within thirty (30) days of Respondents' receipt of a Director's final decision concerning an Ohio EPA notification of need to amend the approved LiOH Storage Plan or the approved DUF_6 Management Plan, Respondents shall notify the Director, in writing, of their acceptance or non-acceptance of the Director's final decision. If Respondents accept the Director's final decision, or fail to notify the Director of non-acceptance, in accordance with this paragraph, such decision shall be binding on the Parties. If Respondents notify the Director, in accordance with this paragraph, of non-acceptance of the Director's final decision, it will not be binding on the Respondents. Under Section X., the Parties have reserved rights as to any further action.

G. Upon written request by the Respondents, Ohio EPA will extend the time period for completion of work affected by the dispute. Such extension shall include but not exceed the actual time taken to resolve the dispute in accordance with this Section. The Chief will notify the Parties, in writing, of the extension.

H. Within thirty (30) days of a resolution or final decision under this Section, Respondents shall incorporate and implement such resolution or final decision, subject to administrative or judicial appeal or review of a Director's final decision according to applicable law. The time periods designated in this Section may be extended by mutual written agreement of the Parties.

IX. OTHER APPLICABLE LAWS

Nothing in these Orders shall be construed as waiving or compromising in any way the applicability and enforcement of any other statutes or regulations applicable to the Respondents' activities at the Facility. Ohio EPA reserves all rights and privileges except as specified herein. Respondents reserve all defenses they may have.

X. RESERVATION OF RIGHTS

Nothing contained in these Orders, including Section VIII, shall be construed to prevent the Director from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including seeking penalties against the Respondents for noncompliance with these Orders. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require the Respondents to perform additional activities at the Facility, pursuant to Chapter 3734. of the ORC or any other applicable law in the future. Nothing herein shall restrict the Respondents from raising any defenses with respect to such actions.

Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek penalties for violations of these Orders. Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations not addressed in these Orders. Nothing herein shall restrict the right of the Respondents to raise any administrative, legal or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of the Respondents. Nothing in these Orders shall be construed as a waiver of DOE's jurisdiction over source, by-product, or special nuclear materials under the Atomic Energy Act, 42 U.S.C. Section 2201, et seq. Nothing in the preceding sentence alters the Respondents' duty to comply with these Orders.

The Director reserves the right to revoke these Orders, or any portion hereof, upon a determination by Ohio EPA that such revocation is necessary to protect human health or safety or the environment. The Respondents reserve the right to seek administrative or judicial review of any such revocation.

It is the position of Ohio EPA that the federal Anti-Deficiency Act, 31 U.S.C. Section 1341, as amended, does not apply to any obligations set forth in these Orders, and obligations hereunder are unaffected by the Respondent DOE's failure to obtain adequate funds or appropriations from Congress. It is Respondent DOE's position that the obligations set forth in these Orders are subject to the provisions of the Anti-Deficiency Act and are subject to the availability of funding. The Parties agree that it is premature to raise and resolve the validity of such positions at this time.

XI. OTHER CLAIMS

Nothing in these Orders shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any persons, firm, partnership or corporation, not a signatory to these Orders, for any liability arising out of or relating to the operation of the Respondent DOE's Facility.

IT IS SO ORDERED:

Donald R. Schregardus, Director

February 24, 1998
Date

XII. SIGNATORIES

Each undersigned representative of a party signatory to these Orders certifies that he or she is fully authorized to enter in the terms and conditions of these Orders and to legally bind such signatory to this document.

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XII. WAIVER

The Respondents agree that these Orders are lawful and reasonable and that the times provided for compliance herein are reasonable. The Respondents, by acceptance of these Orders, agree to comply with all conditions of these Orders and acknowledge that the Respondents' failure to do so may result in further legal action by Ohio EPA.

The Respondents hereby waive the right to appeal or otherwise challenge the issuance of these Orders. Nothing in these Orders shall affect the Respondents' rights to seek administrative or judicial review of other final actions by the Director pursuant to ORC Section 3745.04 or other applicable law.

Ohio EPA and the Respondents agree that in the event that these Orders are appealed by any other party to the Environmental Board of Review, or any court, the Respondents retain the right to intervene and participate in such appeal in support of these Orders. In such event, the Respondents shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated, or modified.

IT IS SO AGREED:

United States Department of Energy

By _____ Date 5/28/97

Manager, Oak Ridge Operations Office
Title

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Lockheed Martin Energy Systems, Inc.

Robert J Van Hook — 8/18/97

By — Date

PRESIDENT

Title

Ohio Environmental Protection Agency

Donald R. Schregardus — February 24, 1998

Donald R. Schregardus, Director — Date

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OHIO E.P.A.

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EXHIBIT A

November 1, 1996

LITHIUM HYDROXIDE (LiOH) STORAGE PLAN

I. Location and description of LiOH Warehouses

A. All buildings are outside the perimeter fence.
B. The buildings are numbered X-744T, U, S, K, N, P, and Q.
C. The buildings are constructed of steel frames on concrete pads.
D. Buildings K, S, T, and U were upgraded in 1987-88 with new roof and metal siding.
E. Buildings N, P, and Q were built in 1988.
F. The floor space area (in square feet) in each building is as follows:

1.	K	35,000
2.	S	50,000
3.	T	100,000
4.	U	100,000
5.	N	14,600
6.	P	14,600
7.	Q	14,600

II. Inspections of the LiOH Warehouses

A. A visual inspection of each of the LiOH warehouses shall be conducted on afternoon and evening shifts each Monday thru Friday to ensure the following:

1. The access doors to the warehouses have not been compromised, and
2. The fire extinguishers are in place at each warehouse.

B. Monthly inspections of the accessible portions of the interior of each warehouse shall be completed for the following:

1. the integrity of accessible drums,
2. the warehouse roofs for leaks,
3. the general condition of the warehouses,
4. spill control equipment available at each warehouse, and
5. signs legible from a distance of 25 ft. with the legend "Danger - Unauthorized Personnel Keep Out" at each of the entrances of each warehouse.

III. Shipping Operations [Added September 30, 1996]

A. Outside staging areas within close proximity of each LiOH storage warehouse shall be established. These areas will be used to accommodate timely sampling and processing of the LiOH drums.

1. Shipping from these staging areas shall commence immediately upon completion of laboratory analysis of the samples.

2. Storage of individual drums (not to exceed 4000) within the staging area shall not exceed 120 days and shall be documented.

B. The staging areas shall be configured as follows:

1. The surface of the staging areas shall be covered with a protective covering to prevent any spills from contacting the ground surface.

2. All drums shall be covered with a waterproof covering to protect them from the elements.

C. As part of the monthly inspection of the warehouses (Section II, B), the staging areas shall be inspected to verify the integrity of the protective covering on the ground as well as assuring all drums are covered with the protective covering.

D. Any spills occurring during staging operations shall be managed in accordance with section IV of this plan.

IV. Contingency Plan

A. The PORTS emergency response procedures shall apply and be implemented in response to emergencies involving LiOH.
B. Any LiOH spilled shall be cleaned up immediately and characterized. Note: Not all spills shall be managed as waste. The vendor has indicated they will take spilled LiOH if it is not contaminated with too much debris.
C. The characterized waste shall be managed appropriately.
D. Ohio EPA shall be verbally notified within 48 hours of the discovery of any ruptured container if it is deemed to be a waste.
E. An area shall be established where ruptured drums shall be moved to be repaired or overpacked.

V. Records

A. One visual inspection shall be documented each week.
B. The monthly inspections shall be documented.

VI. Reporting

A. Within 48 hours of discovery of a ruptured container, verbal notification shall be made to Ohio EPA if the container contents are deemed to be a waste.

B. Upon request by Ohio EPA, annual reports that provide the documentation of the required inspections and details of any unusual findings or observations during these inspections shall be submitted to Ohio EPA.

VII. Training

A. All personnel directly involved in the inspections and management of the LiOH shall be trained through classroom instruction or given on-the-job training to perform their duties. Records of such training shall be kept on plantsite.

EXHIBIT B

November 1, 1996

DEPLETED URANIUM HEXAFLUORIDE (DUF_6)
MANAGEMENT PLAN

I. **DUF_6 Cylinder Surveillance Program.** The cylinder surveillance program consists of inspections, ultrasonic thickness testing and radiological surveys.

A. <u>Inspections</u>. The inspections shall be documented on a checklist which shall include the size, type, number, location, and physical description of all DUF_6 cylinder defect criteria. All accessible areas of all cylinders shall be visually inspected, using the following criteria:

1. **DUF_6 Cylinder Defect Criteria** .

a. **General Cylinder Criteria**

Hole in cylinder
Visible leakage/contamination on cylinder or ground
* Bulge - protruding one-half inch or more
* Gouge - greater than one-sixteenth inch of metal moved
* Dent - greater than one-sixteenth inch deep
* Bent stiffening ring - cracked weld or separation of ring from body
Severe corrosion - local or extensive pitting and/or scaling that is evident on one third or more of the bottom shell and scaling consisting of layered flakes over one-eighth inch thick and over two inches in diameter

b. **Cylinder Body Contact Point**

Body ground contact
Stiffening ring ground contact
Evidence of water/cylinder contact from poor yard drainage
* Dent caused by lifting lug contact - greater than one-sixteenth inch deep
Evidence of lifting lug contact
* Wood saddle/resting block - cracking, splitting, rotting or sinking
Concrete saddle - cracking, chipping, corrosion or sinking
Debris between saddle and cylinder

c. **Valve End of Cylinder**

Evidence of contamination on valve.
* Bent valve body
Bent/separated skirt

Scale in skirt
Skirt in ground contact
Weep hole in skirt plugged
* Valve end not accessible
Packing nut missing/cracked
Port cap missing/cracked
Bent or sheared valve stems
Cracked bent valve protector
Identification(I.D.) plate missing
I.D. plate loose/cracked welds
New name plate attached to skirt/valve/plug

d. **Plug End of Cylinder**

Evidence of contamination on plug
* Bent or damaged plug
Bent/separated skirt
Scale in skirt
Skirt in ground contact
Weep hole in skirt plugged
Plug end not accessible

Note: Asterisked criteria indicate that after the restacking is completed that criteria may not apply.

2. **Inspection Frequency**

a. All DUF_6 cylinders in storage shall be visually inspected at least every four (4) years using the DUF_6 cylinder defect criteria.

b. DUF_6 cylinders stored in areas that exhibit poor drainage conditions (i.e., standing water for a period of forty-eight (48) hours following heavy rainfall) and cylinders with severe corrosion of cylinder surfaces or skirt areas shall be visually inspected annually using the DUF_6 cylinder defect criteria.

c. Valves with evidence of leakage (i.e., buildup of DUF_6 reaction products, discoloration around valve/plug) shall be inspected monthly. This inspection consists of the following:

1) Ensuring the plastic bag is still in place;

2) Checking the bag for clarity or new buildup of DUF_6 reaction products on valve; and

3) Taking a swipe sample from the valve to determine if contamination (alpha, beta, gamma) levels exist.

Note: A swipe sample is where a cloth or wipe is smeared over an area, nominally 100 cm^2 in surface area, to pick up loose surface contamination from the surface of the cylinder. The wipe is then read by the appropriate instrument for contamination level, normally reading out in dpm/100 cm^2 (DPM = disintegrations per minute).

d. Breached UF_6 cylinders shall be inspected daily until the situation is mitigated. Inspections shall consist of the following:

1) Ensuring that tarps are in place to prevent precipitation from coming in contact with the cylinder and a catch pan placed beneath the cylinder to prevent material from dropping to the pavement.

2) Ensuring that contamination boundaries and transition zones are in place.

Note: A contamination boundary is an area established using a yellow and magenta rope or tape at the perimeter of an area determined by survey to be where no contamination has spread. Transition zones are established for going to and from the contamination zone.

3) Determining Hydrogen Fluoride (HF) content in air.

Note: HF content in the air is determined by hand-held HF detectors using an HF detection tube (such as Draeger Model 21/31) which are calibrated instruments to read out in concentration of HF.

4) Collecting UF_6 reaction products for weighing (accountability);

5) Determining loose surface contamination levels of pad areas adjacent to the breach. See Section 2.C.3; and

6) Determining radiation levels at the breach.

Note: Determining radiation levels at the breach shall be accomplished by utilizing calibrated radiation instruments to determine contact readings and general area radiation dose levels in mrem/hr.

e. All UF_6 cylinders shall be visually inspected immediately before movement. The pre-move inspection shall consist of the following:

1) Lifting lug weld (if lug is to be used for lifting the cylinder) - examining for cracked weld, bent lug, elongated lug lifting hole

2) The cylinder in general - examining for deep cracks, gouges, and cuts in shell (ref. I. A.1.)

3) Areas immediately next to saddle contact points - examining for evidence of DUF_6 reaction products or severe corrosion

4) Areas of previous lifting lug-to-cylinder contact points - examining for evidence of DUF_6 reaction products

f. All DUF_6 cylinders shall be visually inspected once it is lifted. This visual inspection of the contact points and all previously inaccessible areas shall be conducted to determine and assess whether there is evidence of DUF_6 reaction products, cracks, gouges, cuts, and/or severe corrosion.

g. All DUF_6 cylinders shall be visually inspected using the DUF_6 cylinder defect criteria (ref. I.A.) immediately after movement of the cylinder.

h. If any of the following defect conditions are noted during any inspections required by this DUF_6 Management Plan, recognized industrial applications and practices shall be used to determine the nature and extent of the defect condition and the method of repair or dispositioning of the DUF_6 cylinder. Code inspectors shall be used to evaluate the nature and extent of the defect condition. Depending on the condition of the DUF_6 cylinder, the code inspectors and appropriate personnel (See V B) shall recommend repairing cracks in welds, patching thinned cylinder wall areas or cold transfer of the contents to a new cylinder prior to movement.

1) Cracks in welds

2) Dents and gouges (ref. I.A.)

3) Presence of DUF_6 reaction products.

Note: The presence of reaction products represents a potentially unsafe condition and the area must be evacuated immediately and the emergency procedures for a breached cylinder must be followed. (See Section V)

B. Ultrasonic Thickness Testing

1. During DUF_6 cylinder relocation in fiscal years 1996, 1997, and 1998, the wall thickness of 10- and 14- ton mild steel DUF_6 cylinders shall be evaluated using non-destructive techniques, such as ultrasonic thickness (UT) measurements. A statistically based, randomly selected number of cylinders moved during the relocation exercise shall be inspected using UT measurement techniques. Initially, this sampling ~~shall consist~~ consisted of a random selection of ten percent of the cylinders moved during fiscal year 1996 (i.e. about 5000 cylinders are to be

moved in fiscal year 1996 and thus about 500 cylinders shall be UT measured). This data shall be analyzed and the number of samples UT measured shall be adjusted (e.g., increased, decreased, distribution of sampling changed) based on the results of the analysis of this initial data.

2. The following locations on the 10- and 14- ton UF_6 storage cylinders shall be evaluated with hand-held UT probe measurements:

   a. Two measurements at the 12 o'clock position (top of cylinder)
   b. Two measurements at the 3 o'clock position (side of cylinder)
   c. One measurement near the center of the head, valve end
   d. One measurement near the center of the head, plug end
   e. One measurement directly beneath the valve
   f. One measurement directly beneath the plug
   g. On skirted cylinders, five measurements as close as possible to skirt/head interface.

3. After the UF_6 cylinders have been restacked (FY 1999), 150 cylinders shall be inspected (on an annual basis) using UT measurement techniques. The cylinders that will be evaluated shall be selected at random from the cylinders inspected using UT techniques in FY 96, 97, and 98.

C. **Radiological Surveys.** All UF_6 cylinders and storage yards shall be radiologically surveyed. The scope and frequency of the survey are noted below:

1. A general area survey of the cylinder yards shall be done annually using an approved dose-rate instrument to ensure that no area of the yards exceeds 5 mr/hr.

   Note: A general area survey is accomplished by measuring the dose rate utilizing a calibrated radiation detector held waist high while walking at a steady pace through the cylinder lots recording the three highest radiation levels per row of cylinders and recording all radiation levels that meet or exceed radiation area posting requirements.

2. A swipe survey of areas accessible by hand for all cylinders shall be done annually to determine levels of loose surface contamination (i.e., alpha, beta, and gamma).

   Note: See above I.A.2.C.3 for swipe description.

3. A swipe survey of valves/plugs suspected to be leaking shall be done when identified to determine levels of surface contamination (i.e., alpha, beta, and gamma).

4. A swipe survey of valves/plugs suspected to be leaking shall be done monthly to determine levels of surface contamination (i.e, alpha, beta, and gamma).

   Note: See I.A.2.c. for complete valve inspection description.

5. A general survey of any breached cylinder(s) and areas next to the breached cylinder(s) shall be done daily until the breach is mitigated to assess the level of radiation (i.e., dose in mr/hr).

   Note: See I.A.2.d.6. for more detailed description.

6. A swipe survey of any breached cylinder(s) shall be done daily until the breach is mitigated to determine the level of surface contamination (i.e., alpha, beta, gamma).

   Note: See I.A.2.d. for complete breach inspection description.

II. **DUF_6 Cylinder Maintenance Program** shall consist of the following:

A. Renewing the protective coating of cylinders as necessary to avoid excessive corrosion; skirt cleaning; and replacing valve port cap and packing nuts on an as-needed basis. Any discrepancies discovered during this activity requiring maintenance action and during routine inspection of the yards shall be entered into the Maintenance Service Request (MSR) system within ten (10) working days.

   Note: The MSR system is a computerized tracking system for maintenance activities at PORTS. MSRs are submitted by the respective facility custodians for the work at the cylinder yards.

B. On-going inventory control shall consist of identification tag replacement and accountability of nuclear materials by location. Inventory of nuclear materials is managed through an established computerized database. Any discrepancies discovered during the course of this activity and during routine inspection shall be entered in the MSR system within ten (10) working days.

C. Cylinder maintenance shall be done in the cylinder storage yards. If breached cylinder contents must be transferred, it shall be done in the cylinder storage yards, the X-344 transfer facility, or a process building, depending on the type of transfer required and condition of the cylinder. Using the information collected in 1.A.1 above, DUF_6 cylinder defect criteria, cylinders shall be analyzed to determine method of repair or dispositioning. All transfers shall be done using established procedures for the appropriate method of transfer (autoclave or cold transfer).

III. **DUF_6 Cylinder Storage Yard Surveillance and Maintenance Program**

A. The storage yards shall be monitored for DUF_6 releases using (1) annual radiological surveys of all cylinders and yards, (2) monthly radiological surveys on valves/plugs suspected to be leaking, and (3) existing environmental monitoring programs (i.e., soil sampling, surface water monitoring, and sediment sampling). Once cylinder relocation has been initiated, monthly surface water run-off samples for total uranium analysis shall be collected at the established collection basin for X-745E Yard and a depression

on the south side of the X-745C Yard. The analytical methods are in-house procedures for alpha, beta and total uranium. The alpha/beta procedure is the same as SW-846, method 9310 except for the calibration standards. The total uranium is an inductively Coupled Plasma/Mass Spectrometry (ICP/MS) procedure capable of detecting down to I ppb Uranium.

B. Soil samples of the surface water runoff areas of the pad shall be sampled if a breached cylinder is discovered. The analytical methods are in-house for alpha, beta and total uranium. The alpha/beta procedure is the same as noted above in A. The total uranium is a fluorometric analytical procedure. Soil sample results and any corrective actions shall be documented. Rate and extent of any contamination found shall be defined and remediated in a manner that controls, minimizes or eliminates to the extent necessary to protect human health and the environment, escape of hazardous decomposition products to the groundwater, surface water or the atmosphere, in accordance with established spill procedures. For a breached DUF_6 cylinder, these procedure shall include the following:

1. Soil showing visible contamination shall be excavated immediately.

2. A statistically valid sampling plan that considers the soil type, properties of the spilled material, area affected, volume of the spill and other factor shall be developed.

3. This sampling plan shall guide the confirmatory sampling and any additional excavation and remediation.

4. Background for soils shall be in accordance with the Background Sampling Investigation of Soil and Groundwater Report for the Portsmouth Gaseous Diffusion Plant final document dated June 7, 1996 (DOE/OR/11-1323&D3) approved by Ohio EPA April 16, 1996.

5. Excavation of any soil contamination is required as expeditiously as possible and shall continue until the sampling analyses show results less than the mean plus two sigma of the background.

6. Any soil excavated as required by this plan shall be containerized and evaluated according to OAC rule 3745-52-11.

7. Remediation of any ground or surface water contamination resulting from the spill shall be in accordance with the provisions of Section VII of the Ohio Consent Decree and applicable portions of the U.S. EPA Administrative Order of Consent.

8. If a DUF_6 cylinder breaches during the pendency of the Order, the provisions of this Section shall apply until all work required by this Section is completed.

C. Routine maintenance activities for the existing and new storage yards shall consist of: (1) identifying and controlling vegetation, (2) identifying and repairing water retention areas (See I.A.2.b), (3) identifying and replacing or repairing signage (i.e., radiological

postings), (4) identifying and replacing damaged barricades, and (5) identifying and repairing defective lighting. Any discrepancies found shall be entered into the MSR system within ten (10) working days.

IV. Design and Construction of New Storage Yards

A. The new storage yards, at a minimum, shall be sloped and constructed of concrete in accordance with General Design Criteria, DOE Order 6430.1a. Concrete saddles shall be utilized for cylinder storage.

B. DUF_6 cylinders shall be stored by cylinder type (i.e., fourteen and ten ton). Fourteen and ten ton cylinders shall be stored with aisle spacing of about four feet. Cylinder center-to-center shall measure about sixty inches. Full cylinders shall be stacked two high. See attached drawing.

V. Contingency Plan

A. In the event of an emergency involving the DUF_6 cylinder yards, the Portsmouth Emergency Plan response procedures shall apply and the following actions taken:

1. Evacuate the area immediately.

2. Notify supervision and the Plant Shift Superintendent (PSS) immediately.

B. Appropriate personnel such as code inspectors, health physicists and metallurgists shall be summoned to evaluate the breach after the area is determined by the incident commander to be safe to enter.

C. Notification shall be made to the Ohio EPA.

D. Breaches shall be evaluated on a case-by-case basis and corrective actions taken as appropriate.

VI. Records

A. Procedures and/or checklists shall be used to implement the surveillance and maintenance requirements.

B. All DUF_6 cylinder and cylinder yard surveillance and maintenance activities shall be logged/recorded.

C. Records for activities (i.e., logs and checklists) required by this exhibit shall be maintained at the facility until cylinder disposition.

VII. Reporting

A. All records, (i.e., logs and checklists) required by the DUF_6 management plan and requested by Ohio EPA shall be provided. Within 24 hours of discovery, releases from DUF_6 cylinders shall be reported to Ohio EPA verbally detailing all pertinent information

known at the time. Within 5 working days of the incident, a written report shall be submitted to the Ohio EPA documenting the details of the release, environmental monitoring that has been completed, corrective actions completed to-date, and any further actions to be taken. Recorded information shall include cylinder yard, section, row, position, breach size, possible causes, amount and location of product released, and nameplate information (e.g. cylinder number, model).

B. Within 30 days of receiving a written request by Ohio EPA, U.S. DOE and LMES shall provide to Ohio EPA a report that documents the surveillance and program improvements activities for the past quarter that were conducted in accordance with the DUF_6 management plan as described in sections I and IX of this outline. Nothing in this paragraph shall limit any statutory or regulatory authority that Ohio EPA may otherwise have to request information from inspection of DUF_6 at PORTS.

VIII. Training

DOE shall train all personnel directly involved in handling and inspection of cylinders, in order to comply with DOE procedures and the DUF_6 Management Plan. Class room instruction and on-the-job training shall be used. Refresher training shall occur for all involved personnel on an annual basis. Training shall be specific to the job performed, and shall include, if applicable, safe operation of cylinder handling equipment, lifting and moving of cylinders, and emergency response procedures. Inspectors shall also be trained on proper inspection procedures, including identification, description, measurement, and recording of all inspection criteria. DOE shall maintain records of training at the facility.

A code inspector shall be trained in the use of precision measuring instruments and various industrial practices/methods and interpretation of data. Code inspectors shall be tested by a certified American Society for Non Destructive Testing (ASNT) examiner. Records of this training shall be retained at the site.

IX. Program Improvements

U.S. DOE shall continue to make improvements to its comprehensive program of managing U.S. DOE's DUF_6 cylinders stored at PORTS. Examples of improvement projects U.S. DOE shall use to evaluate the cylinders are:

A. **Relevant Inspection Data.** The results of the cylinder inspections shall be used to evaluate trends and to develop annual reports.

B. **Coupon Studies.** These studies consists of using different steel types in the cylinder storage yards placed in various locations and angles. The purpose of this study is to measure atmospheric corrosion of metals in accordance with ASTM Standard G-50. The data are to determine whether the metal loss rate stabilizes over time.

C. **Ambient Condition and Time of Wetness Studies.** These studies consist of placing probes on the cylinders. Measurements are taken for surface moisture, surface temperature, relative humidity, and ambient temperature. The purpose of this study is to determine the time of wetness. The data obtained shall be used in conjunction with the corrosion probe data to define conditions that lead to accelerated corrosion and optimize cylinder storage conditions in the future.

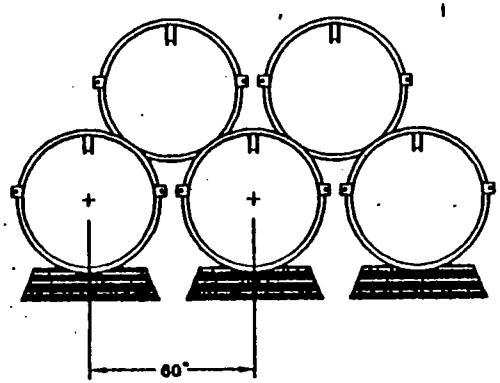
D. **Corrosion Probe Studies.** Probes are placed in various positions on cylinders and attached to an instrument that applies a small current and compares the difference in resistance across the element each time a measurement is taken. Measurements are taken on a monthly basis to calculate the corrosion rate and metal loss.

E. **Ultrasonic Thickness Testing.** This testing shall be conducted to obtain information on existing wall thickness and changes over time.

The purpose of the above program improvements is to determine the rate and extent of corrosion of a cylinder wall while in storage. DOE is planning to utilize an independent party to develop a standard for cylinders in storage. This independent interpretation shall be developed using the ASTM standard for pressure vessels in an operational configuration as the baseline. This interpretation along with the above program improvement studies shall be used to determine cylinder wall thickness to be used for long-term storage of cylinders.

X. **Other**

At U.S. DOE, LMES, or Ohio EPA request (parties), the parties shall meet in January of each year to discuss improvements to U.S. DOE's DUF_6 management program.

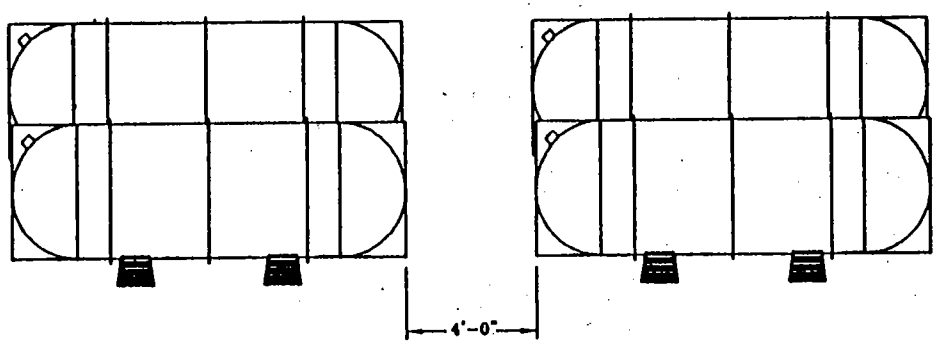


END VIEW

NOTES:

1. 14 AND 10 TON CYLINDERS WILL BE STACKED NO MORE THAN TWO HIGH, AND WILL BE SPACED, ON CONCRETE SADDLES, TO PROVIDE APPROXIMATELY 60 INCHES FROM THE CENTER OF ONE CYLINDER HEAD TO THE CENTER OF THE ADJACENT CYLINDER HEAD.

2. WHEN STACKED IN ROWS, THERE WILL BE APPROXIMATELY 4 FEET OF AISLE SPACE BETWEEN THE ENDS OF CYLINDERS (SKIRTED CYLINDERS SHOWN.) NON SKIRTED CYLINDERS WILL ALSO HAVE APPROXIMATELY 4 FEET OF AISLE SPACE AS MEASURED BETWEEN THE ELLIPTICAL HEADS.



SIDE VIEW

PORTSMOUTH RESTACKING CONFIGURATION

Request for Proposals DE-RP05-01OR22717
Acquisition of Facilities and Services
for Conversion of
Depleted Uranium Hexafluoride (DUF_6)

Please add the attached document to Reading Room Att.No.2.
It is numbered "Reading Room Att. No. 2(a)"
and is entitled
"Director's Final Findings and Orders Supplementing
the Director's Final Findings
and Orders of February 24, 1998"

Please call (865) 241-1408 and
confirm that you received

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

United States Department of Energy
Portsmouth Gaseous Diffusion Plant
P.O. Box 700
Piketon, Ohio 45661-0700

and

Bechtel Jacobs Company LLC.
P.O. Box 4699
Oak Ridge, Tennessee 37831-4699

Respondents

Director's Final Findings and Orders

"Supplemental Orders" Reading Room Attachment No. 2(a)

DIRECTOR'S FINAL FINDINGS AND ORDERS SUPPLEMENTING THE DIRECTOR'S FINAL FINDINGS AND ORDERS OF FEBRUARY 24, 1998.

PREAMBLE

It is hereby agreed to by and among the Parties hereto as follows:

I. JURISDICTION

These Director's Supplemental Final Findings and Orders ("Supplemental Orders") are issued to the United States Department of Energy ("Respondent DOE") and Bechtel Jacobs Company LLC. ("Respondent Bechtel Jacobs Company LLC.") (referred to collectively as "Respondents") pursuant to the authority vested in the Director of Environmental Protection ("Director") under Sections 3734.13, 3734.20 and 3745.01 of the Ohio Revised Code ("ORC").

II. PARTIES BOUND

These Supplemental Orders shall apply to and be binding upon the Respondents, their assigns, and successors in interest. With respect to Respondent DOE, no change in ownership or operation of the Facility will in any way alter Respondent DOE's

responsibilities under these Supplemental Orders, except as otherwise provided by law. The obligations of Respondent Bechtel Jacobs Company LLC. under these Supplemental Orders shall terminate when Respondent Bechtel Jacobs Company LLC. is no longer responsible pursuant to contract with DOE to perform work under the Supplemental Orders; provided, however that this Section of the Supplemental Orders does not absolve Respondent Bechtel Jacobs Company LLC. from any liability for any violation which occurs prior to the termination of said contract. Except as otherwise expressly provided herein, Respondents' obligations under these Supplemental Orders may be altered only by written approval of the Director.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Supplemental Orders shall have the same meaning as in the Director's Final Findings and Orders of February 24, 1998 and ORC Chapter 3734. and the regulations promulgated thereunder.

Party:
The term "Party" means DOE, Bechtel Jacobs Company LLC., or Ohio EPA.

Parties:
The term "Parties" means DOE, Bechtel Jacobs Company LLC., and Ohio EPA.

IV. FINDINGS OF FACT

The Director hereby makes the following findings:

On February 24, 1998, the Director issued Final Findings and Orders to Lockheed Martin Energy Systems, Inc. ("LMES") and Respondent DOE. All findings made in the Director's Final Findings and Orders of February 24, 1998 ("February 1998 Orders") are hereby incorporated by reference. In addition, the following finding is added to Section IV of the February 1998 Orders, as paragraph 13:

On December 18, 1997, Respondent DOE selected Respondent Bechtel Jacobs Company LLC. to succeed LMES as DOE's prime contractor at the Facility. Commencing April 1, 1998, Respondent Bechtel Jacobs Company LLC. will carry out certain day-to-day operations at the Facility including operation of the hazardous waste storage units and storage facilities for DUF6 and LiOH. On April 1, 1998, LMES' contractual responsibilities with Respondent DOE to carry out day-to-day operations at the Facility including operations of the hazardous waste storage units and storage facilities for DUF6 and LiOH will cease.

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V. ORDERS

All terms and conditions contained in the February 1998 Orders and all exhibits attached thereto remain valid and in effect. In addition, the February 1998 Orders are supplemented as described in the following paragraph and the sections set forth below:

The February 1998 Orders shall apply to and be binding upon Bechtel Jacobs Company LLC. as a Respondent and a Party to the same extent and manner as are applicable to and binding upon Lockheed Martin Energy Systems, Inc.

VI. PROJECT MANAGERS

Ohio EPA's Project Manager is Donna Goodman of Ohio EPA's Southeast District Office. Respondent DOE's Project Manager is Melda Rafferty. Respondent Bechtel Jacobs Company LLC.'s Project Manager is the Bechtel-Portsmouth Site Manager. Any Party may change its designated Project Manager by notifying the other Parties, in writing, ten (10) business days before the change if possible.

Each Project Manager shall be the primary contact regarding the implementation of the February 1998 Orders and these Supplemental Orders. Project Managers shall meet periodically, as appropriate, to discuss progress and problems regarding the implementation of these Supplemental Orders.

VII. NOTICE

All documents to be submitted pursuant to these Supplemental Orders shall be submitted to the following persons at the following addresses:

Ohio EPA:

Ohio Environmental Protection Agency
Southeast District Office
Division of Hazardous Waste Management
Attn: RCRA Group Leader
2195 Front Street
Logan, OH 43138

and

Ohio Environmental Protection Agency

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Division of Hazardous Waste Management
Attn: Manager, Compliance Assurance Section
1800 WaterMark Drive
Columbus, OH 43215-1099

DOE:

U.S. DOE, Portsmouth Gaseous Diffusion Plant
Attn: Portsmouth Site Manager
P.O. Box 700
Piketon, OH 45661-0700

Bechtel Jacobs Company LLC.:

Bechtel Jacobs Company, LLC.
Portsmouth Gaseous Diffusion Plant
Attn: Portsmouth Site Manager
P.O. Box 4699
Oak Ridge, TN 37831-4699

or to such persons and addresses as may hereafter be otherwise specified in writing.

VIII. DISPUTE RESOLUTION

A. The procedures of this Section shall apply to any good faith dispute arising under Supplemental Orders. For purposes of this section, the term "Respondents" means DOE, Bechtel Jacobs Company LLC. or both.

B. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, Respondents and Ohio EPA shall make reasonable efforts to informally resolve the dispute at the project manager level. If resolution cannot be achieved informally, the disputing party may elevate the dispute for resolution pursuant to paragraph C. of this section. If Respondents do not submit a written notification of dispute to Ohio EPA within thirty (30) days of the occurrence of the circumstances giving rise to the dispute, Respondents shall be deemed to have accepted the position of Ohio EPA.

C. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, any Party may initiate formal dispute resolution under this paragraph. To initiate formal dispute resolution, the disputing party shall submit to the other parties a written notification of the dispute. The written notification of the dispute shall specify the nature of the dispute, the work affected by the dispute, the disputing party's position with respect to the dispute and the information the disputing party is relying upon to support its position.

D. Within thirty (30) days of written notification of a dispute, the Project Managers and designated representatives of the parties shall attempt to resolve such dispute. For DOE, the designated representative(s) shall include the DOE-Portsmouth Site Manager. For Bechtel Jacobs Company LLC., the designated representative(s) shall include the Bechtel Jacobs Company-Portsmouth Site Manager. For Ohio EPA, the designated representative(s) shall include the Assistant Chief of the Division of Hazardous Waste Management.

E. Within thirty (30) days of written notification of the dispute, if the Project Managers and designated representatives of the Parties are unable to resolve the dispute, any Party may submit a written statement of the dispute to Ohio EPA's Chief of the Division of Hazardous Waste. The Chief may meet with the Project Managers and designated representatives of the Parties and may request additional information regarding the nature of the dispute and the respective positions of the Parties. Within thirty (30) days of receipt of the written statement of dispute, the Chief will consult with the DOE-Portsmouth Site Manager and the Bechtel Jacobs Company-Portsmouth Site Manager.

The Chief will notify the Project Managers and designated representatives of the Parties in writing of the Director's final decision regarding the dispute. The Director's final decision shall be signed by the Director. Except as otherwise provided under paragraph F. below, the Director's final decision shall be binding on the Parties, subject to administrative or judicial appeal or review according to applicable law.

F. Within thirty (30) days of Respondents' receipt of a Director's final decision concerning an Ohio EPA notification of need to amend the approved LIOH Storage Plan or the approved DUF6 Management Plan, Respondents shall notify the Director, in writing, of their acceptance or non-acceptance of the

Director's final decision. If Respondents accept the Director's final decision, or fail to notify the Director of non-acceptance, in accordance with this paragraph, such decision shall be binding on the Parties. If Respondents notify the Director, in accordance with this paragraph, of non-acceptance of the Director's final decision, it will not be binding upon the Respondents. Under Section X., the Parties have reserved rights as to any further action.

G. Upon written request by the Respondents, Ohio EPA will extend the time period for completion of work affected by the dispute. Such extension shall include but not exceed the actual time taken to resolve the dispute in accordance with this Section. The Chief will notify the Parties, in writing, of the extension.

H. Within thirty (30) days of a resolution or final decision under this Section, Respondents shall incorporate and implement such resolution or final decision, subject to administrative or judicial appeal or review of a Director's final decision according to applicable law. The time periods designated in this Section may be extended by mutual written agreement of the Parties.

IX. OTHER APPLICABLE LAW

Nothing in these Supplemental Orders shall be construed as waiving or compromising in any way the applicability and enforcement of any other statutes or regulations applicable to the Respondents' activities at the Facility. Ohio EPA reserves all rights and privileges except as specified herein. Respondents reserve all defenses they may have.

X. RESERVATION OF RIGHTS

Nothing contained in these Supplemental Orders, including Section VIII, shall be construed to prevent the Director from seeking legal or equitable relief to enforce the terms of these Supplemental Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including seeking penalties against Respondents for noncompliance with these Supplemental Orders. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require the Respondents to perform additional activities at the Facility, pursuant to Chapter 3734. of the ORC or any other applicable law in the future. Nothing herein shall restrict the Respondents from raising any defenses with respect to such further actions.

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Nothing in these Supplemental Orders shall be construed to limit the authority of Ohio EPA to seek penalties for violations of these Supplemental Orders. Nothing in these Supplemental Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations not addressed in these Supplemental Orders. Nothing herein shall restrict the right of the Respondents to raise any administrative, legal or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of the Respondents. Nothing in these Supplemental Orders shall be construed as a waiver of DOE's jurisdiction over source, by-product, or special nuclear materials under the Atomic Energy Act, 42 U.S.C. Section 2201, et seq. Nothing in the preceding sentence alters the Respondents' duty to comply with these Supplemental Orders.

The Director reserves the right to revoke these Supplemental Orders, or any portion hereof, upon a determination by Ohio EPA that such revocation is necessary to protect human health or safety or the environment. The Respondents reserve the right to seek administrative or judicial review of any such revocation.

It is the position of Ohio EPA that the federal Anti-Deficiency Act, 31 U.S.C. Section 1341, as amended, does not apply to any obligations set forth in these Supplemental Orders, and obligations hereunder are unaffected by the Respondent DOE's failure to obtain adequate funds or appropriations from Congress. It is Respondent DOE's position that the obligations set forth in these Orders are subject to the provisions of the Anti-Deficiency Act and are subject to the availability of funding. The Parties agree that it is premature to raise and resolve the validity of such positions at this time.

XI. OTHER CLAIMS

Nothing in these Supplemental Orders shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any persons, firm, partnership or corporation, not a signatory to these Orders, for any liability arising out of or relating to the operation of the Respondent DOE's Facility.

IT IS SO ORDERED:

Donald R. Schregardus, Director

3/30/98
Date

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XII. SIGNATORIES

Each undersigned representative of a party signatory to these Supplemental Orders certifies that he or she is fully authorized to enter in the terms and conditions of these Supplemental Orders and to legally bind such signatory to this document.

XIII. WAIVER

The Respondents agree to that these Supplemental Orders are lawful and reasonable and that the times provided for compliance herein are reasonable. The Respondents, by acceptance of these Supplemental Orders, agree to comply with all conditions of these Supplemental Orders and acknowledge that the Respondents' failure to do so may result in further legal action by Ohio EPA.

The Respondents hereby waive the right to appeal or otherwise challenge the issuance of these Supplemental Orders. Nothing in these Supplemental Orders shall affect the Respondents' rights to seek administrative or judicial review of other final actions by the Director pursuant to ORC Section 3745.04 or other applicable law.

Ohio EPA and the Respondents agree that in the event these Supplemental Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, the Respondents retain the right to intervene and participate in such appeal in support of these Supplemental Orders. In any event, the Respondents shall continue to comply with these Supplemental Orders notwithstanding such appeal and intervention unless these Supplemental Orders are stayed, vacated, or modified.

IT IS SO AGREED:

United States Department of Energy

Justin K. Price — 3/27/98

By — Date

Executive Director, Office of Assistant Manager for Environmental Management

Title

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Bechtel Jacobs Company, LLC.

By J.W. Thiesing — 3-27-98
Date

Vice President
Title

Ohio Environmental Protection Agency

Donald R. Schregardus, Director — 3/30/98
Date

amend/TA.so

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OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, Ohio 43216-1049

CERTIFIED MAIL

June 24, 2005

Re: Director's Final Findings & Orders
Exemption Pursuant to R.C. 3734.02(G)
U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant

Mr. Gerald G. Boyd
Manager, Oak Ridge Operations Office
Department of Energy
Oak Ridge Operations
200 Administration Road
Oak Ridge, Tennessee 37831

Mr. William E. Murphie
U.S. Department of Energy
Portsmouth/Paducah Project Office
1017 Majestic Drive Suite 200
Lexington, Kentucky 40513

Mr. Michael C. Hughes
Bechtel Jacobs Company LLC
Portsmouth Gaseous Diffusion Plant
PO Box 900
Piketon, Ohio 45661-0628

Mr. Tim M. Forden
President
Uranium Disposition Services, LLC
1020 Monarch Street Suite 100
Lexington, Kentucky 40513

Ms. Gail G. Mattson
Project Manager
LATA/Parallax Portsmouth, LLC
3930 US Route 23 South
P.O. Box 855 Building X-1000
Piketon, Ohio 45661

Dear Sirs and Madam:

Here are the Director's Final Findings and Orders (Orders) issued to the United States Department of Energy, Bechtel Jacobs Company LLC, Uranium Disposition Services, LLC, and LATA/Parallax Portsmouth, LLC on June 23, 2005. These Orders were effective yesterday, June 23, 2005.

These Orders provide an exemption from the hazardous waste permitting and transporter requirements for transporting and storing all cylinders of DUF_6 pursuant to Ohio Revised Code § 3734.02(G) to the United States Department of Energy (US DOE) and Bechtel Jacobs Company LLC. They also require US DOE & Bechtel to manage waste at the facility pursuant to an approved DUF_6 Management Plan.

If you have any questions, do not hesitate to call Ed Lim at (614) 644-2944.

Sincerely,

for Pamela S. Allen, Manager
Regulatory and Information Services
Division of Hazardous Waste Management

l:\users\dsharpe\fossent\02g.us.doe.portsmouth.bechtel.wpd

Attachments

cc: Fran Kovac, Legal
Ed Lim, Manager, ERAS, DHWM
Dennis DeNiro, ERAS, DHWM
Melody Stewart, DHWM, SEDO
John McCoy, Uranium Disposition Services
Richard Martin, Duratek Incorporated
Robert A. Dutton, Office of Senior Counsel, Framatome ANP
Sutin, Thayer & Browne, A Professional Corporation
Jean Dunkirk, Esq., Bechtel Jacobs Company LLC
Terri Slack, Esq., DOE, Oak Ridge Operations
Ray Miskelley, Esq., US DOE, Portsmouth-Paducah Office

BEFORE THE
OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

United States Department of Energy :
Portsmouth Gaseous Diffusion Plant :
P.O. Box 700 :
Piketon, Ohio 45661-0700 :

Director's Final Findings and Orders

Bechtel Jacobs Company LLC
Portsmouth Gaseous Diffusion Plant
P.O. Box 900
Piketon, Ohio 45661-0628

Uranium Disposition Services, LLC
1020 Monarch St. Suite 100
Lexington, KY 40513

LATA/Parallax Portsmouth, LLC
3930 US Route 23 South
P.O. Box 855, Building X-1000
Piketon OH 45661

Respondents

PREAMBLE

It is agreed by the Parties hereto as follows:

I. JURISDICTION

These Director's Final Findings and Orders (Orders) are issued to the United States Department of Energy (Respondent DOE), Bechtel Jacobs Company LLC (Respondent Bechtel Jacobs), Uranium Disposition Services, LLC (Respondent UDS) and LATA/Parallax Portsmouth, LLC (Respondent LPP) (together, Respondents) pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency (Ohio EPA) under Ohio Revised Code (ORC) §§ 3734.02(G), 3734.13, 3734.14 and 3745.01.

II. PARTIES BOUND

These Orders shall apply to and be binding upon Respondents and successors in interest liable under Ohio law. No change in ownership or operation of the Facility, with respect to Respondent DOE shall in any way alter Respondent DOE's obligations under these Orders. The obligations and benefits of Respondent LPP under these Orders shall terminate when Respondent LPP is no longer responsible for the management of depleted uranium hexafluoride (DUF_6) pursuant to its contract with DOE; provided, however, that nothing in this Section absolves Respondent LPP from any liability for any violation which occurs prior to the termination of its obligation under these Orders. The obligation of Respondent Bechtel Jacobs under these Orders shall terminate when Respondent Bechtel Jacobs no longer provides transportation of DUF_6 as described herein pursuant to its contract with DOE; provided, however, that nothing in this Section absolves Respondent Bechtel Jacobs from any liability for any violation which occurs prior to the termination of its obligation under these Orders. The obligation of Respondent UDS under these Orders shall terminate when Respondent UDS is no longer responsible for the management of DUF_6 pursuant to its contract with DOE; provided, however, that nothing in this Section absolves Respondent UDS from any liability for any violation that occurs prior to the termination of its obligation under these Orders.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as defined in ORC Chapter 3734. and the rules promulgated thereunder.

The term "Party" means Respondent DOE, Respondent Bechtel Jacobs, Respondent UDS, Respondent LPP, or Ohio EPA.

The term "Parties" means Respondent DOE, Respondent Bechtel Jacobs, Respondent UDS, Respondent LPP, and Ohio EPA.

IV. FINDINGS

All of the findings necessary for the issuance of these Orders pursuant to ORC §§ 3734.13 and 3745.01 have been made and are outlined below. Nothing in the findings shall be considered to be an admission by Respondents of any matter of law or fact. The Director of Ohio EPA has determined the following findings:

1. Respondent DOE owns the Portsmouth Gaseous Diffusion Plant, a uranium enrichment facility, located in Pike County, Ohio, approximately twenty (20) miles north of the City of Portsmouth (Facility).

2. Respondent Bechtel Jacobs is a limited liability company, licensed to do business in the State of Ohio on December 24, 1997. Respondent Bechtel Jacobs has contracted with Respondent DOE to provide transportation services of the DUF_6 from Tennessee to Ohio, and formerly operated certain DUF_6 storage areas owned by Respondent DOE.

3. Respondent UDS is a limited liability company, licensed to do business in the State of Ohio on December 26, 2003. Respondent UDS has contracted with Respondent DOE to construct, operate and maintain the DUF_6 conversion plant, and will co-operate, with Respondent DOE, the DUF_6 storage areas at the Facility known as X-745-C, E, and G-1.

4. Respondent LPP is a limited liability company incorporated in New Mexico on March 19, 2004. Respondent LPP has contracted with Respondent DOE to co-operate, with Respondent DOE, the DUF_6 storage areas at the Facility in buildings X-344 (DOE storage areas only) and X-345.

5. The Respondents are each a "person" as defined in ORC § 3734.01 and rule 3745-50-10 of the Ohio Administrative Code (OAC).

6. Respondent DOE has generated, and Respondents UDS and LPP will now operate storage facilities at the Facility for Respondent DOE's DUF_6 at the Facility. The fact sheet titled, "Overview of Depleted Uranium Hexafluoride Management Program" published by Respondent DOE in 2001, states that "when released to the atmosphere, DUF_6 reacts with water vapor in the air to form hydrogen fluoride (HF) and uranyl fluoride (UO_2F_2), both chemically toxic substances."

7. Ohio EPA has determined that the DUF_6 is a "waste" as that term is defined by OAC rules 3745-50-10 and 3745-51-02, and is subject to the waste evaluation requirements in OAC rule 3745-52-11. Ohio EPA has further determined that, based on the known physical and chemical characteristics of DUF_6, as described generally above, the quantity of DUF_6 currently stored at the East Tennessee Technology Park (ETTP) near Oak Ridge, Tennessee, is likely to meet the requirements of "hazardous waste" as that term is defined by ORC § 3734.01 and OAC rules 3745-50-10 and 3745-51-03, and that no further characterization of the waste is required at this time.

8. By letter dated December 20, 1990, and subsequent letters, Ohio EPA notified Respondent DOE that Ohio EPA had determined that Respondent DOE failed to evaluate the DUF_6 stored at the Facility, in violation of OAC rule 3745-52-11.

9. Respondent DOE responded and notified Ohio EPA that Respondent DOE disagrees with Ohio EPA's determination that the DUF_6 is a waste, and that Respondent DOE disagrees with Ohio EPA's determination that Respondent DOE is subject to and in violation of the waste evaluation requirements in OAC rule 3745-52-11 for its DUF_6 stored at the Facility. Respondents reserve these objections, notwithstanding Respondents' agreement to these Orders.

10. On February 24, 1998, the Director of Ohio EPA issued an order exempting, *inter alia*, Respondent DOE from the requirement to evaluate the DUF_6 waste stream generated at the Facility, and ordered Respondent DOE to implement an approved DUF_6 management plan (February 24, 1998 Orders). On March 31, 1998, the Director of Ohio EPA issued an order which added Respondent Bechtel Jacobs as a Respondent and a Party to the February 24, 1998 Orders (March 31, 1998 Orders). The February 24, 1998 Orders remain in full force and effect with respect to the DUF_6 cylinders generated and stored at the Facility until such time as the Orders expire, in accordance with Order No. 3(B), of the February 24, 1998 Orders. The March 31, 1998 Orders will be terminated pursuant to Order No. 12, below.

11. Respondent DOE has announced its intention to build and operate DUF_6 conversion facilities at the Facility and at its facility in Paducah, Kentucky. On August 29, 2002, Respondent DOE awarded a contract to Respondent UDS, for the design, construction, and operation of the DUF_6 conversion plants, and for the shipment of some of the DUF_6 cylinders currently stored at ETTP, and potentially at other facilities within Respondent DOE's Oak Ridge Office (ORO) complex, to the Facility for conversion. In addition, Respondent DOE has also contracted with Respondent Bechtel Jacobs for shipment of some DUF_6 cylinders from ETTP to the Facility.

12. On March 12, 2004, the Director issued Final Findings and Orders (March 2004 Orders) to, and with the consent of, Respondents DOE and Bechtel Jacobs, regarding the transportation and management of DUF_6 at the Facility.

13. Shipment of DUF_6 cylinders from the ORO complex began in March, 2004, and is expected to continue until 2007. It is expected that approximately 4,700 cylinders at the ORO containing about 56,000 metric tons of DUF_6, and approximately 1100 cylinders, most of which contain residual quantities of

uranium, will ultimately be sent to the Facility. As of April 14, 2005, approximately 3114 cylinders containing DUF_6 have been shipped from ORO to the Facility. Respondent DOE has contracted with Respondent UDS, and formerly contracted with Respondent Bechtel Jacobs, to manage the storage of DUF_6. Respondent DOE has also contracted with Respondent LPP to, *inter alia*, manage the storage of DUF_6.

14. Of the cylinders of DUF_6 that Respondent DOE proposed to ship to the Facility, up to 3,000 were originally believed to be not compliant with United States Department of Transportation (DOT) regulations governing the transport of this material. On September 21, 2004, Respondent DOE published the final revised "Transportation Plan for the Transport of UF6 Cylinders, Including ANSI N14.1-Noncompliant Cylinders, from the East Tennessee Technology Park to the Portsmouth Gaseous Diffusion Plant." This plan addresses transportation for all cylinders intended to be shipped to the Facility from ORO, including those that were not at the time compliant with DOT regulations.

15. On August 20, 2004, following comments and revisions made by Ohio EPA, Respondent DOE published the final revised DUF_6 Management Plan which is contained in Attachment A to these Orders, and which addresses management of both compliant and non-compliant cylinders at the Facility.

16. On November 2, 2004, the Director modified the March 2004 Orders (November 2004 Modification) to allow and provide for the transportation and management of DUF_6, pursuant to ORC Chapter 3734, which is stored in cylinders which are non-compliant with United States Department of Transportation (U.S. DOT) requirements, through an exemption from certain requirements as described therein.

17. Shipment of all cylinders, including cylinders of DUF_6 which are currently DOT non-compliant is to be completed by 2007. Construction on the conversion plant began in 2004, and, following an expected two year construction period, the conversion operation is expected to last at least an additional 25 years, resulting in the need to store the DUF_6 cylinders at the Facility over that period of years.

18. Respondents may design and construct new storage areas by implementing procedures in the DUF_6 Management Plan, identified in Order No. 3 and contained in Attachment A to these Orders.

19. Following conversion of the DUF_6 to a more stable chemical form (such as uranium oxide and hydrofluoric acid), current plans call for the depleted uranium

conversion products to be used, or, if uses are not identified, disposed of. The packaging and transportation of the conversion products will be the responsibility of the selected conversion contractor(s), and are not addressed within these Orders.

20. ORC § 3734.02(F) provides, *inter alia*, no person shall store, treat, or dispose of hazardous waste regardless of whether generated on or off the premises where the waste is stored, treated, or disposed of, or transport or cause to be transported any hazardous waste except at or to a hazardous waste facility operating under a permit issued in accordance with ORC Chapter 3734.

21. Respondent DOE was first issued a hazardous waste installation and operation permit for the Facility effective August 21, 1995; this permit was renewed on March 15, 2001. The permit authorizes Respondent DOE to store certain hazardous and mixed wastes generated at the Facility in two storage areas at the Facility, however the permit does not authorize Respondents to accept hazardous waste or mixed waste which was generated off-site, except for residues from treatment processes applied to wastes generated at the Facility. The permit does not include treatment of hazardous waste, regardless of where the waste was generated. Through a permit modification in 1998, Respondent Bechtel Jacobs was added as a co-operator on the permit, and through a pending permit modification, it is anticipated that Respondent Bechtel Jacobs will be removed as a co-operator, and Respondent LPP will be added as a co-operator.

22. Transportation of DUF_6 from ORO to the Facility for long term storage would, without a permit or exemption in place, place Respondents in violation of ORC Chapter 3734. and the rules promulgated thereunder with respect to the management of hazardous waste.

23. Pursuant to ORC § 3734.02(G), the Director of Ohio EPA may by order exempt any person generating, storing, treating, transporting, or disposing of hazardous waste in such quantities or under such circumstances that, in the Director's determination, it is unlikely that public health or safety or the environment will be adversely affected thereby, from any requirement to obtain a permit or license or comply with the manifest system or other requirements of ORC Chapter 3734.

24. Pursuant to ORC § 3734.14, when necessary or desirable to facilitate the exchange and use of hazardous waste, the Director of Ohio EPA may order exemptions from the requirements of ORC Chapter 3734. in accordance with ORC § 3734.02(G).

25. Pursuant to ORC § 3734.02(G), the Director has determined that it is unlikely that public health or safety or the environment will be adversely affected by exempting Respondents from the requirement to obtain a permit for the storage of DUF_6 generated off-site, provided that the Respondents comply with the requirements set forth in the following orders.

V. ORDERS

Respondents shall achieve compliance with ORC Chapter 3734. and the regulations promulgated thereunder according to the following compliance schedule:

1. Respondent DOE shall make good-faith efforts to evaluate potential use or reuse of the DUF_6, or of the materials, specifically uranium oxide, hydrofluoric acid and calcium hydroxide, generated as the result of the conversion process.

2. On or before the 31st day of December, of each year Order No. 1 remains in effect, until Respondent DOE's evaluation is completed, Respondent DOE shall submit to Ohio EPA a written Annual Report for the previous federal fiscal year that summarizes Respondent DOE's good-faith efforts to evaluate potential use or reuse of the DUF_6.

3. Respondents DOE, UDS and LPP shall implement and comply with the DUF_6 Management Plan contained in Attachment A to these Orders, and any future amendments thereto approved by Ohio EPA, in accordance with the terms and conditions contained therein. The DUF_6 Management Plan is incorporated by reference herein.

4. Approval by Ohio EPA of the DUF_6 Management Plan pursuant to, and through incorporation into, these Orders shall also constitute the required approval for any amendment to the DUF_6 Management Plan required pursuant to the February 24, 1998, and March 31, 1998 Orders.

5. Amendment of DUF_6 Management Plan

   a. If Respondents DOE, UDS and LPP, or Ohio EPA, identifies a need for Respondents DOE, UDS and LPP to amend the approved DUF_6 Management Plan, the Respondents DOE, UDS and LPP or Ohio EPA shall provide written notification of such need and the reasons therefore. The notification shall be of sufficient detail to fully explain the rationale and circumstances that justify such amendment. Such need to amend the approved DUF_6 Management Plan may include transfer of ownership and

possession to Respondent DOE of DUF_6 generated by USEC at the Facility.

b. Within thirty (30) days after the date of such written notification, or within such other time as agreed by Ohio EPA and Respondents DOE, UDS and LPP, Respondents DOE, UDS and LPP shall submit an amended plan to Ohio EPA for review and approval. If Respondents DOE, UDS and LPP do not have sufficient information on the proposed amendment in order to submit an amended plan within the required time frame, Respondents DOE, UDS and LPP may propose an alternative schedule for submitting an amended plan.

c. In reviewing any proposed amendment, Ohio EPA agrees to consider all reasons provided by Respondents DOE, UDS and LPP in support of their proposed amendment, including available funding. If Ohio EPA does not expect to approve the proposed amendment, Ohio EPA will provide Respondents DOE, UDS and LPP with a written statement explaining the reasons. Prior to sending Respondents DOE, UDS and LPP a written statement explaining the reasons it does not expect to approve the proposed amendment, Ohio EPA will consult with Respondents DOE, UDS and LPP regarding the proposed amendment.

d. Within thirty (30) days after Respondents' receipt of such written statement explaining the reasons or within such other time agreed by Ohio EPA and Respondents DOE, UDS and LPP, Respondents DOE, UDS and LPP shall submit a revised amended plan, submit a new amended plan, or submit a written statement explaining Respondents' reasons for not submitting an amended plan.

e. Ohio EPA will notify Respondents DOE, UDS and LPP in writing, in a timely manner, of its approval or disapproval of the amended plan. The amended plan shall be enforceable in the same manner as the approved plan attached to these Orders. Prior to any disapproval of a proposed amendment, Ohio EPA will consult with Respondents DOE, UDS and LPP regarding the proposed amendment. Any determination by Ohio EPA to disapprove a proposed amendment will be accompanied by a written statement detailing the reasons for disapproval.

f. If any Party disagrees with a written notification of the need to amend the approved DUF_6 Management Plan, or if Respondents DOE, UDS and LPP

disagree with any Ohio EPA decisions made according to Order No. 5, Respondents may initiate the dispute resolution procedures of Section VII.

6. Except as expressly provided in these Orders, Respondents DOE, UDS and LPP shall cause all work to be performed in accordance with the DUF_6 Management Plan. It is the responsibility of Respondent DOE to provide necessary funding to implement the DUF_6 Management Plan.

7. Exemptions, pursuant to ORC § 3734.02(G), from the requirements in ORC § 3734.02(E) to obtain a valid hazardous waste installation and operation permit for the storage of DUF_6, or modify the existing permit to include the storage of DUF_6 that was generated and stored at the Facility, or that was generated or stored at ORO and transported and stored at the Facility, and the requirements in OAC rule 3745-50-45, and OAC Chapters 3745-54/65 and 3745-55/66 are hereby granted to Respondents DOE, UDS and LPP. The exemptions provided by Order No. 7 extend only to DUF_6 that was generated and is, as of the effective date of these Orders, stored at the Facility, and DUF_6, transported from off-site in a manner compliant with U.S. DOT transportation regulations, or pursuant to an applicable DOT exemption. The exemptions provided by Order No. 7 shall not be construed to apply to any release to the environment, or any treatment or disposal of DUF_6, except for releases that are remediated pursuant to the approved DUF_6 Management Plan, and shall not extend to any waste other than DUF_6. The exemptions provided by Order No. 7 shall not be construed to apply to empty cylinders which formerly contained DUF_6 and which are not usable for the storage or shipment of DUF_6 conversion products.

8. An exemption from the requirements of OAC rules 3745-53-11, 3745-53-20, 3745-53-21, and 3745-53-22, which would otherwise apply to the transportation by Respondents DOE and Bechtel Jacobs of DUF_6 into Ohio, is hereby granted to Respondents DOE and Bechtel Jacobs, provided that they implement and comply, to the extent applicable, with the requirements of the approved DUF_6 Management Plan. The exemption provided by Order No. 8 extends only to DUF_6 generated at ORO and shipped to the Facility in accordance with these Orders and in a manner compliant with U.S. DOT transportation regulations, or pursuant to an applicable DOT exemption. The exemptions provided by Order No. 8 shall not be construed to apply to empty cylinders which formerly contained DUF_6 and which are not usable for the storage or shipment of DUF_6.

9. The exemptions for DUF_6 contained in Order No. 7., above, and Respondent DOE's obligations under Order No. 1. shall expire on February 24, 2008, or when any one of the following events occur, whichever is earlier: (1) DUF_6 is no

longer stored at the Facility; (2) Respondent DOE or other appropriate parties fail to obtain or modify any permits from Ohio EPA prior to beginning construction, (3) Ohio EPA determines that substantial construction or operation of the DUF_6 conversion plant has ceased for a period of six months, or (4) the Director revokes the exemption in Order No. 7 of these Orders. However, if a DUF_6 cylinder breach is discovered during the term of these Orders, the Respondents' obligations under Section III.B. of the DUF_6 Management Plan contained in Attachment A to these Orders shall continue until all work required by that Section with respect to that breach is completed. If any Party expects an exemption to expire due to the approach of the expiration date, above, the Parties agree to meet and confer in good faith, upon request of any Party, to discuss the possibility of renewing the exemption.

10. The exemptions for the transportation requirements for DUF_6 contained in Order No. 8, above, shall expire on February 24, 2008, or when any one of the following events occur, whichever is earlier: (1) approved storage space is no longer available for additional cylinders at the Facility, (2) Respondent DOE or other appropriate parties fail to obtain or modify any permits from Ohio EPA prior to beginning construction, (3) Ohio EPA determines that substantial construction or operation of the DUF_6 conversion plant has ceased for a period of six months, or (4) the Director revokes the exemption in Order Nos. 7 and/or 8 of these Orders. In the event that the exemption contained in Order No. 8 is revoked or expires, and upon written notice to Respondents, Respondents shall immediately cease all shipment of DUF_6 from ORO to the Facility. If any Party expects an exemption to expire due to the approach of the expiration date, above, the Parties agree to meet and confer in good faith, upon request of any Party, to discuss the possibility of renewing the exemption.

11. The issuance of these Orders by the Director does not release Respondents from any liability they may have incurred for any violations which may have occurred at the Facility prior to the effective date of these Orders, nor are Respondents released from any liability they may incur in the event of expiration of the exemptions contained in Order Nos. 7 and 8. The issuance of these Orders does not release Respondents from any obligation they have to comply with the State of Ohio's environmental laws, except as otherwise specifically provided herein. These Orders do not exempt Respondents from any other local, state, or federal laws or regulations which are otherwise applicable.

12. The March 31, 1998 Orders, March 2004 Orders and November 2004 Modification are terminated effective on September 30, 2005.

VI. PROJECT MANAGERS

Within five (5) days of the effective date of these Orders, Respondents shall each notify Ohio EPA, in writing, of the name, address and telephone number of their designated Project Manager and Alternate Project Manager. Any Party may change its designated Project Manager by notifying the other Parties, in writing, ten (10) business days before the change if possible.

Each Project Manager shall be the primary contact regarding the implementation of these Orders. The Project Managers shall meet periodically, as appropriate, to discuss progress and problems regarding the implementation of these Orders.

VII. DISPUTE RESOLUTION

1. The procedures of this Section shall apply to any good-faith dispute arising under these Orders. For purposes of this Section, the term "Respondents" means DOE, Bechtel Jacobs, UDS, and/or LPP.

2. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, Respondents and Ohio EPA shall make reasonable efforts to informally resolve the dispute at the Project Manager level. If resolution cannot be achieved informally, the disputing Party may elevate the dispute for resolution pursuant to paragraph 3. of this Section. If Respondents do not submit a written notification of dispute to Ohio EPA within thirty (30) days of the occurrence of the circumstances giving rise to the dispute, Respondents shall be deemed to have accepted the position of Ohio EPA.

3. Within thirty (30) days following the occurrence of circumstances giving rise to a dispute, any Party may initiate formal dispute resolution under this paragraph. To initiate formal dispute resolution, the disputing Party shall submit to the other Parties a written notification of the dispute. The written notification of the dispute shall specify the nature of the dispute, the work affected by the dispute, the disputing Party's position with respect to the dispute and the information the disputing Party is relying upon to support its position.

4. Within thirty (30) days of written notification of a dispute, the Project Managers and designated representatives of the Parties shall attempt to resolve such dispute. For Respondent DOE, the designated representative(s) shall include either the DOE Assistant Manager for Environmental Management or a

representative from the DOE Portsmouth/Paducah Project Office, or both. For Respondent Bechtel Jacobs, the designated representative shall be the

Vice President and Deputy General Manager. For Respondent UDS, the designated representative shall be the UDS Plant Manager. For Respondent LPP, the designated representative shall be Waste Disposition/Decontamination & Decommissioning Manager. For Ohio EPA, the designated representative(s) shall include the Assistant Chief of the Division of Hazardous Waste Management.

5. Within thirty (30) days of written notification of the dispute, if the Project Managers and designated representatives of the Parties are unable to resolve the dispute, any Party may submit a written statement of the dispute to Ohio EPA's Chief of the Division of Hazardous Waste Management. The Chief may meet with the Project Managers and designated representatives of the Parties and may request additional information regarding the nature of the dispute and the respective positions of the Parties. Within thirty (30) days of receipt of the written statement of dispute, the Chief will consult with the DOE Assistant Manager for Environmental Management, a representative from the DOE Portsmouth/Paducah Project Office, the Bechtel Jacobs Vice President and Deputy General Manager, the UDS Plant Manager, and the LPP Waste Disposition/Decontamination & Decommissioning Manager.

   The Chief will notify the Project Managers and designated representatives of the Parties in writing of Director's final decision regarding the dispute. The Director's final decision shall be signed by the Director. Except as otherwise provided under paragraph 6. below, the Director's final decision shall be binding on the Parties.

6. Within thirty (30) days of Respondents' receipt of a Director's final decision concerning an Ohio EPA notification of need to amend the approved DUF_6 Management Plan, Respondents shall notify the Director, in writing, of their acceptance or non-acceptance of the Director's final decision. If Respondents accept the Director's final decision, or fail to notify the Director of non-acceptance, in accordance with this paragraph, such decision shall be binding on the Parties. If Respondents notify the Director, in accordance with this paragraph, of non-acceptance of the Director's final decision, it will not be binding on the Respondents. Under Section XII., the Parties have reserved rights as to any further action.

7. Upon written request by the Respondents, Ohio EPA will extend the time period for completion of work affected by the dispute. Such extension shall include but not exceed the actual time taken to resolve the dispute in accordance with this Section. The Chief will notify the Parties, in writing, of the extension.

8. Within thirty (30) days of a resolution or final decision under this Section, Respondents shall incorporate and implement such resolution or final decision, subject to administrative or judicial appeal or review of a Director's final decision according to applicable law. The time periods designated in this Section may be extended by mutual written agreement of the Parties.

VIII. OTHER CLAIMS

Nothing in these Orders shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership or corporation, not a Party to these Orders, for any liability arising from, or related to, the operation of Respondents' Facility.

IX. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations. These Orders do not waive or compromise the applicability and enforcement of any other statutes or regulations applicable to Respondents.

X. MODIFICATIONS

These Orders may be modified by agreement of the Parties hereto. Modifications shall be in writing and shall be effective on the date entered in the journal of the Director of Ohio EPA.

XI. NOTICE

All documents required to be submitted by Respondents pursuant to these Orders shall be addressed to:

Ohio Environmental Protection Agency
Southeast District Office
Division of Hazardous Waste Management
2195 Front Street
Logan, Ohio 43138
Attn: DHWM Manager

and Ohio EPA Central Office at the following address:

For mailings, use the post office box number:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Hazardous Waste Management
122 South Front Street, P.O. Box 1049
Columbus, Ohio 43216-1049
Attn: Manager, Engineering and Risk Assessment Section

For deliveries to the building:

Joseph P. Koncelik, Director
Ohio Environmental Protection Agency
Lazarus Government Center
Division of Hazardous Waste Management
122 South Front Street
Columbus, Ohio 43215
Attn: Manager, Engineering and Risk Assessment Section

or to such persons and addresses as may hereafter be otherwise specified in writing by Ohio EPA.

XII. RESERVATION OF RIGHTS

Nothing contained in these Orders, including Section VII, shall be construed to prevent the Director from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including seeking penalties against the Respondents for noncompliance with these Orders. Nothing contained herein shall be construed to prevent Ohio EPA from exercising its lawful authority to require the Respondents to perform additional activities at the Facility, including closure or corrective action pursuant to ORC Chapter 3734. or any other applicable law in the future. Nothing herein shall restrict the Respondents from raising any defenses with respect to such actions.

Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek penalties for violations of these Orders. Nothing in these Orders shall be construed to limit the authority of Ohio EPA to seek relief for violations not addressed in

these Orders. Nothing herein shall restrict the right of the Respondents to raise any administrative, legal or equitable claim or defense with respect to such further actions which Ohio EPA may seek to require of the Respondents. Nothing in these Orders shall be construed as a waiver of Respondent DOE's jurisdiction over source, by-product, or special nuclear materials under the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201, *et seq.* Nothing in the preceding sentence alters the Respondents' duty to comply with these Orders.

The Director reserves the right to revoke these Orders, or any portion hereof, upon a determination by Ohio EPA that such revocation is necessary to protect human health or safety or the environment. The Respondents reserve the right to seek administrative or judicial review of any such revocation.

It is the position of Ohio EPA that the federal Anti-Deficiency Act, 31 U.S.C. § 1341, as amended, does not apply to any obligations set forth in these Orders, and obligations hereunder are unaffected by the Respondent DOE's failure to obtain adequate funds or appropriations from Congress. It is Respondent DOE's position that the obligations set forth in these Orders are subject to the provisions of the Anti-Deficiency Act and are subject to the availability of funding. The Parties agree that it is premature to raise and resolve the validity of such positions at this time.

XIII. WAIVER

In order to resolve disputed claims, without admission of fact, violation or liability, Respondents consent to the issuance of these Orders and agrees to comply with these Orders. Respondents agree that these Orders are lawful and reasonable and that the times provided for compliance herein are reasonable. Respondents, by acceptance of these Orders, agree to comply with all conditions of these Orders and acknowledge that the Respondents' failure to do so may result in further legal action by Ohio EPA.

Respondents hereby waive the right to appeal the issuance, terms and conditions, and service of these Orders, and Respondents hereby waive any and all rights Respondents may have to seek administrative or judicial review of these Orders either in law or equity.

Notwithstanding the preceding, Ohio EPA and Respondents agree that if these Orders are appealed by any other party to the Environmental Review Appeals

Commission, or any court, Respondents retain the right to intervene and participate in such appeal. In such an event, Respondents shall continue to comply with these Orders notwithstanding such appeal and intervention unless these Orders are stayed, vacated or modified.

XIV. EFFECTIVE DATE

The effective date of these Orders is the date these Orders are entered into the Ohio EPA Director's journal.

XV. SIGNATORY AUTHORITY

Each undersigned representative of a Party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such Party to these Orders.

IT IS SO ORDERED AND AGREED:

Ohio Environmental Protection Agency

Joseph P. Koncelik
Director

6/22/05
Date
Official Journal Date-6/23/05

IT IS SO AGREED:

United States Department of Energy

Signature

6/9/05
Date

WILLIAM E. MURPHIE
Printed or Typed Name

MANAGER, PORTSMOUTH/PADUCAH PROJECT OFFICE
Title

Signature

Date 6/7/05

Printed or Typed Name

Title

Bechtel Jacobs Company LLC

Signature

Date June 7, 2005

Printed or Typed Name

Title

Uranium Disposition Services LLC

Signature

Date 6/3/05

Printed or Typed Name

Title

LATA/Parallax Portsmouth, LLC

Gail G. Mattson
Signature

6-3-05
Date

GAIL G. MATTSON
Printed or Typed Name

PROJECT MANAGER
Title

Attachment A to Director's Final Findings and Orders

August 20, 2004

DEPLETED URANIUM HEXAFLUORIDE (DUF_6) MANAGEMENT PLAN

This DUF_6 Management Plan addresses the management of Portsmouth DOE-managed DUF_6 cylinders and both the ANSI-compliant and non-compliant DUF_6 cylinders shipped from ORO.

I. **DUF_6 Cylinder Surveillance Program.** The cylinder surveillance program consists of inspections, ultrasonic thickness testing and radiological surveys.

A. Inspections. The inspections shall be documented on a checklist which shall include the size, type, cylinder identification number, location, and physical description of all DUF_6 cylinder defect criteria. All accessible areas of all cylinders shall be visually inspected, using the following criteria:

1. **DUF_6 Cylinder Defect Criteria**

a. **General Cylinder Criteria**

Hole in cylinder
Visible leakage/contamination on cylinder or ground
Bulge - protruding one-half inch or more
Gouge - greater than one-sixteenth inch of metal moved
Dent - greater than one-sixteenth inch deep
Bent stiffening ring - cracked weld or separation of ring from body
Severe corrosion - local or extensive pitting and/or scaling that is evident on one third or more of the bottom shell and scaling consisting of layered flakes over one-eighth inch thick and over two inches in diameter

b. **Cylinder Body Contact Point**

Dent caused by lifting lug contact - greater than one-sixteenth inch deep
Concrete saddle - cracking, chipping, corrosion or sinking
Wood saddle/resting block – cracking, splitting, rotting, or sinking

c. **Valve End of Cylinder**

Evidence of contamination on valve
Bent valve body
Bent/separated skirt

Scale in skirt
Weep hole in skirt plugged
Packing nut missing/cracked
Port cap missing/cracked
Bent or sheared valve stems
Cracked bent valve protector
Identification (I.D.) plate missing
I.D. plate loose/cracked welds
New nameplate attached to skirt/valve/plug (as applicable)

d. **Plug End of Cylinder**

Evidence of contamination on plug
Bent or damaged plug
Bent/separated skirt
Scale in skirt
Weep hole in skirt plugged

2. **Inspection Frequency (See Table 1)**

a. All UF_6 cylinders in storage shall be visually inspected at least every four (4) years using the UF_6 cylinder defect criteria in I.A.1.

b. UF_6 cylinders determined to have at least one of the following conditions shall be visually inspected annually using the UF_6 cylinder defect criteria in I.A.1:

Severe corrosion of cylinder surfaces
Severe corrosion of skirt areas
Heavy rust scale on cylinder body
Note: heavy means over one eight inch thick and over 2 inches in diameter
Rust/scale in skirt
Weep hole in skirt is plugged in the valve end of the cylinder
Weep hole is plugged in the plug end of the cylinder

c. Valves with evidence of leakage (i.e., buildup of UF_6 reaction products, discoloration around valve/plug) shall be inspected monthly for three months in order to verify if this is a leaking valve. Appropriate actions to mitigate a leak will be taken. This inspection consists of the following:

1) Ensuring the plastic bag is still in place;

2) Checking the bag for clarity or new buildup of UF_6 reaction products on valve; and

3) Taking a radiological swipe sample in accordance with 10 CFR 835 from the valve to determine if uranium contamination levels exist greater than 1000 dpm/100 cm^2 as

specified in Appendix D of 10 CFR 835 (10 CFR 835.1101 and 1102 to Appendix D limits).

Note: For swipe samples exceeding 1000dpm/100cm^2, the area will be boundaried and posted and decontamination activities will be completed in accordance with written procedures. The valve or plug will be evaluated for repair or replacement.

d. Breached DUF_6 cylinders shall be inspected daily until the situation is mitigated. Inspections shall consist of the following:

Note: A breached cylinder means a cylinder whose wall has been compromised so that it no longer performs the design function of containment.

1) Ensuring that tarps are in place to prevent precipitation from coming in contact with the cylinder and a catch pan placed beneath the cylinder to prevent material from dropping to the pavement.

2) Ensuring that contamination boundaries are in place.

Note: A contamination boundary is an area established using a yellow and magenta rope or tape at the perimeter of an area determined by survey to be where no contamination has spread.

3) Determining Hydrogen Fluoride (HF) content in air.

Note: HF content in the air is determined by hand-held HF detectors using a HF detection tube (such as Draeger Model 21/31, or equivalent) which are calibrated instruments to read out in concentration of HF.

4) Collecting DUF_6 reaction products for weighing (accountability);

5) Determining loose surface radiological contamination levels per 10 CFR 835 of pad areas adjacent to the breach. Levels of loose uranium contamination shall not exceed 1000 dpm/100 cm^2 as specified in 10 CFR 835 Appendix D (10 CFR 835.1101 and 1102 to Appendix D limits), or the area shall be controlled; and

6) Determining radiation levels at the breach.

Note: Determining radiation levels at the breach shall be accomplished by utilizing calibrated radiation instruments to

determine contact readings and general area radiation dose levels in mrem/hr.

7) Upon identification of a cylinder breach, interim steps will be taken to minimize impacts to worker/public safety and the environment, pending evaluation and determination of appropriate action to affect repair. These appropriate actions may include epoxy, weld, transfer, etc.

e. All DUF_6 cylinders shall be visually inspected before movement. The pre-move inspection shall consist of the following:

Note: For ETTP cylinders arriving at PORTS – The cylinder will be relocated to the appropriate storage location in the PORTS cylinder storage yards or indoor storage locations, where it will receive a post-move inspection within five calendar days of relocation. If the cylinder is not moved to the long term storage location within 20 calendar days, another pre-move inspection will be conducted prior to movement and a post-move inspection will be conducted within five calendar days following relocation.

1) Lifting lug weld (if lug is to be used for lifting the cylinder) - examining for cracked weld, bent lug, elongated lug lifting hole

2) The cylinder in general - examining for deep cracks, gouges, and cuts in shell (See Section I.A.1.)

3) Areas immediately next to saddle contact points - examining for evidence of DUF_6 reaction products or severe corrosion

4) Areas of previous lifting lug-to-cylinder contact points - examining for evidence of DUF_6 reaction products

f. All DUF_6 cylinders shall be visually inspected once they are lifted. This visual inspection of the contact points and all previously inaccessible areas shall be conducted to determine and assess whether there is evidence of DUF_6 reaction products, cracks, gouges, cuts, and/or severe corrosion.

g. All DUF_6 cylinders shall be visually inspected using the DUF_6 cylinder defect criteria (See Section I.A.1) immediately after movement of the cylinder.

h. If any of the following defect conditions are noted during any inspections required by this DUF_6 Management Plan, recognized national industrial standards and practices shall be used to determine the nature and extent of the defect condition and the method of repair or dispositioning of the DUF_6 cylinder. The National Boiler Inspection Code (NBIC) provides guidelines and interpretations including

methodology, acceptable degradation, repairable defects and acceptable repair techniques to the inspectors to assist in evaluating the "code" status or code-ability of the vessel. These guidelines are referenced in ANSI N14.1. The NBIC commissions inspectors (generally through state administered programs) to determine the ASME "Code" status of pressure vessels. The commissioned inspectors are responsible for evaluating the vessel's condition to ensure its fitness for service. The NBIC-commissioned inspectors meet the "qualified code" inspector definition. ASME Code inspectors shall be used to evaluate the nature and extent of the defect condition if not previously evaluated (See Section IX for training qualifications). Depending on the condition of the DUF_6 cylinder, the code inspectors and appropriate personnel (See Section VI.B) shall recommend repairing cracks in welds, patching thinned cylinder wall areas or cold transfer of the contents to a new cylinder prior to movement.

1) Cracks in welds

2) Dents and gouges (See Section I.A)

3) Presence of DUF_6 reaction products on the cylinder shell.

Caution: The presence of reaction products represents a potentially unsafe condition and the area must be evacuated immediately and the emergency procedures for a breached cylinder must be followed. (See Section VI)

B. Ultrasonic Thickness Testing

1. The following locations on the 10- and 14- ton DUF_6 storage cylinders shall be evaluated with ultrasonic thickness (UT) probe measurements:

   a. Two measurements at the 12 o'clock position (top of cylinder)
   b. Two measurements at the 3 o'clock position (side of cylinder)
   c. One measurement near the center of the head, valve end
   d. One measurement directly beneath the valve,
   e. One measurement near the center of the head, plug end
   f. One measurement directly beneath the plug
   g. Five measurements at the area exhibiting the most severe corrosion (typically expected to be at the 6 o'clock position)
   h. Five measurements as close as possible to skirt/head interface.

2. 150 cylinders shall be inspected (on an annual basis) using UT measurement techniques. Selection of cylinders for measurement will be conducted per Attachment A to this Plan, as agreed upon by Ohio EPA and DOE.

These data will be analyzed and the number of cylinders whose wall thickness is measured by UT shall be adjusted (e.g. increased, decreased, or the selections of candidate cylinders for measurement otherwise changed) based on the results of the analysis.

C. **Radiological Surveys.** Dose rate surveys of all UF_6 cylinder storage yards shall be conducted. In addition, all UF_6 cylinders shall be radiologically surveyed. The scope and frequency of the surveys are noted below:

1. A dose rate survey of the cylinder yards shall be performed annually using a dose-rate instrument per 10 CFR 835 (10 CFR 835.101 (c), and 402) to ensure the established dose rate boundary has not changed from the previous year. Boundaries will be established in accordance with 10 CFR 835 (10 CFR 835.603). The boundaries shall delineate the areas that exceed 5 mR/hr or more conservatively as directed by management.

2. A radiological swipe survey of the valve and plug areas for cylinders shall be done annually to determine levels of removable surface uranium contamination. The levels for loose uranium contamination (1000 dpm/100 $cm^{2)}$ found in 10 CFR 835 Appendix D (10 CFR 835.1101 and 1102 to Appendix D limits) shall be employed in making the determination of whether additional actions or controls are necessary. Decontamination, reposting, boundary control, or whatever other actions are necessary will be taken to ensure compliance with the requirements specified by 10 CFR 835 (10 CFR 835. Subpart F and G) for the applicable area classification.

II. **The UF_6 Cylinder Maintenance Program** shall consist of the following:

A. Renewing the protective coating of cylinders as necessary to avoid excessive corrosion; skirt cleaning; and replacing valve port cap and packing nuts on an as-needed basis. Any discrepancies discovered during this activity requiring maintenance action and during routine inspection of the yards shall be entered into the Cylinder Information Database (CID) within ten (10) working days.

Note: The CID database is a computerized tracking system for the documentation of cylinder activities at PORTS and other DOE sites. Data is submitted by the respective facility managers resulting from the work performed at their cylinder yards.

B. On-going inventory control shall consist of identification tag replacement and accountability of nuclear materials by cylinder and location. Inventory of nuclear materials is managed through an established computerized database. Any discrepancies discovered during the course of this activity and during routine inspection shall be entered in the CID system within ten (10) working days.

C. Cylinder maintenance shall be done in the cylinder storage yards. If breached cylinder contents must be transferred, it shall be done in the cylinder storage yards, the X-344 transfer facility, or a process building, depending on the type of transfer required and condition of the cylinder. Using the information collected in Section 1.A.1 above, UF_6 cylinder defect criteria, cylinders shall be analyzed to determine

method of repair or dispositioning. All transfers shall be done using established procedures for the appropriate method of transfer (autoclave or cold transfer).

III. DUF_6 Cylinder Storage Yard Surveillance and Maintenance Program

A. All DUF_6 storage yards shall be monitored for DUF_6 releases using (1) annual radiological surveys of all cylinders and yards, (2) monthly radiological surveys on valves/plugs suspected to be leaking, (3) existing environmental monitoring programs (i.e., soil sampling, surface water monitoring, and sediment sampling), and (4) annual and quadrennial visual inspections. Monthly surface water run-off samples for total uranium analysis shall be collected at the established collection basin for X-745E Yard and a depression on the south side of the X-745C Yard and at appropriate locations in X-745G Yard and for any new or additional storage yards. The analytical methods are in-house procedures for alpha, beta and total uranium. The alpha/beta procedure is the same as SW-846, method 9310 except for the calibration standards. The total uranium is an inductively Coupled Plasma/Mass Spectrometry (ICP/MS) procedure capable of detecting down to 1 ppb Uranium.

B. In the event that a breached cylinder is discovered, soil located in the surface water runoff areas of the pad shall be sampled for radiological constituents. USEPA approved analytical methods for radiological analysis will be used. Soil sample results and any corrective actions shall be documented. Rate and extent of any contamination found shall be defined and remediated in a manner that controls, minimizes, or eliminates contamination to the extent necessary to protect human health and the environment. These procedures shall include the following:

1. Soil showing visible contamination shall be excavated immediately.

2. A statistically valid sampling plan that considers the soil type, properties of the spilled material, area affected, volume of the spill and other factor shall be developed.

3. This sampling plan shall guide the confirmatory sampling and any additional excavation and remediation.

4. Background for soils shall be determined by samples taken adjacent to the cylinder yard in locations approved by Ohio EPA and outside the spill area.

5. Excavation of any soil contamination is required as expeditiously as possible and shall continue until the sampling analyses show results less than the mean plus two sigma of the background.

6. Any soil excavated as required by this plan shall be containerized and evaluated according to OAC rule 3745-52-11.

7. Remediation of any ground or surface water contamination resulting from the spill shall be in accordance with the provisions of Section VII of the Ohio Consent Decree and applicable portions of the U.S. EPA Administrative Consent Order.

8. If a DUF_6 cylinder breaches during the pendency of the Order, the provisions of this Section shall apply until all work required by this Section is completed.

C. Routine maintenance activities for the storage yards shall consist of: (1) identifying and controlling vegetation, (2) identifying and repairing water retention areas, (3) identifying and replacing or repairing signage (i.e., radiological postings), (4) identifying and replacing damaged barricades, and (5) identifying and repairing defective lighting. Any discrepancies found shall be entered into the work order system within ten (10) working days.

IV. Design and Construction of New Storage Yards

A. The new storage yards, at a minimum, shall be constructed in accordance with "Facility Safety," DOE Order 420.1A. Concrete saddles shall be utilized for cylinder storage. Prior to utilizing any new yard for storage of DUF_6, U.S.DOE shall provide notice to Ohio EPA, and allow the inspection of the yard by Ohio EPA.

B. DUF_6 cylinders shall be stored by cylinder type (i.e., fourteen and ten ton). Fourteen and ten ton cylinders shall be stored with aisle spacing of about four feet. Cylinder center-to-center shall measure about sixty inches. Full DUF_6 cylinders exceeding 12-inches in diameter shall be stacked no more than two high. See attached drawing.

V. Inside Storage of Small Diameter DUF_6 Cylinders.

The Small Diameter DUF_6 Cylinders surveillance program consists of inspections and radiological surveys.

A. **Storage.** The storage of small-diameter (less than 30-inch) cylinders containing DUF_6 will be stored indoors within the limited area. Cylinder location is available through the Cylinder Information Database (CID).

1. Some of the small diameter cylinders may be placed in various containers such as drums or boxes for the convenience of storage.

2. There are no stacking limits on small diameter DUF_6 cylinders. The cylinders will be stored in a manner that will make them easily accessible for inspection.

3. The storage areas shall be maintained free of standing water.

B. **Surveillance.** The surveillance of small-diameter (less than 30-inch) cylinders containing DUF_6 will be inspected in the following manner.

1. The small-diameter cylinders shall be inspected on the same inspection frequency criteria applicable to the large diameter cylinders (large diameter means 30-inch and 48-inch diameter). See Table 1.

2. The small-diameter cylinders defect codes are applicable and are the same as for the large-diameter cylinders.

3. The small-diameter cylinder inspections shall be documented on the appropriate checklist.

4. The small-diameter cylinder inspection data is maintained in the Cylinder Information Database (CID).

C. **Radiological Surveys.** The radiological survey of the small-cylinders shall be performed in the following manner.

1. The radiological surveys of these small-diameter cylinders shall be conducted on an annual basis. The surveys will be made on the outermost packaging for overpacked cylinders.

2. The surveys and limits are based on 10 CFR 835 (10 CFR 835.401, 1101 and 1102 to 835.202 limits and Appendix D limits). The applicable radiological uranium contamination limits are 1000 dpm/100 cm^2 as specified in Appendix D of 10 CFR 835 (10 CFR 835.1101 and 1102 to Appendix D limits).

3. The area where the small-diameter cylinders are stored will be surveyed according to 10 CFR 835 (10 CFR 835.401 to 835.202 limits) for dose rates and posted accordingly. The dose rate to post the area is 5 mR/hr or more conservatively as management determines.

VI. Contingency Plan

A. In the event of an emergency involving DUF_6 storage areas, the Portsmouth Emergency Plan response procedures shall apply and the following actions taken:

1. Evacuate the area immediately.

2. Notify supervision and the Plant Shift Superintendent (PSS) immediately.

B. Appropriate personnel such as code inspectors, health physicists and metallurgists shall be summoned to evaluate the breach after the area is determined by the incident commander to be safe to enter.

C. Notification shall be made to the Ohio EPA within 24 hours verbally, and in writing within 5 working days (see Section VIII.A, Reporting).

D. Breaches shall be evaluated on a case-by-case basis and corrective actions taken as appropriate.

VII. Records

A. Procedures and/or checklists shall be used to implement the surveillance and maintenance requirements.

B. All DUF_6 cylinder and cylinder storage area surveillance and maintenance activities shall be logged/recorded.

C. Records for activities (i.e., logs and checklists) required by this exhibit shall be maintained at the facility until cylinder disposition.

D. Computerized records may be used in lieu of logs and checklists.

VIII. Reporting

A. All records, (i.e., logs and checklists) required by the DUF_6 management plan and requested by Ohio EPA shall be provided. Within 24 hours of discovery, releases from DUF_6 cylinders shall be reported to Ohio EPA verbally detailing all pertinent information known at the time. Within 5 working days of the incident, a written report shall be submitted to the Ohio EPA documenting the details of the release, environmental monitoring that has been completed, corrective actions completed to-date, and any further actions to be taken. Recorded information shall include cylinder yard, section, row, position, breach size, possible causes, amount and location of product released, and nameplate information (e.g. cylinder number, model).

B. Within 30 days of receiving a written request by Ohio EPA, U.S. DOE and the Operating Contractor shall provide to Ohio EPA a report that documents the surveillance and program improvements activities for the past quarter that were conducted in accordance with the DUF_6 management plan as described in Sections I, V, and X of this plan. Nothing in this paragraph shall limit any statutory or regulatory authority that Ohio EPA may otherwise have to request information from inspection of DUF_6 at PORTS.

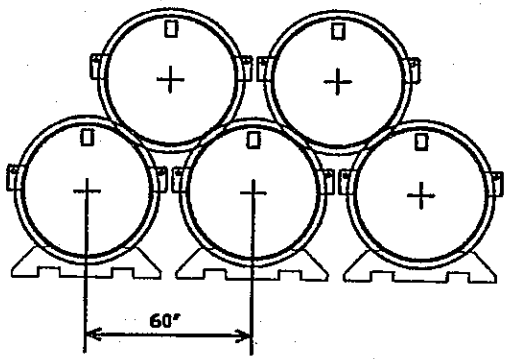
IX. Training

DOE shall train all personnel directly involved in handling and inspection of cylinders, in order to comply with DOE procedures and the DUF_6 Management Plan. Classroom instruction and on-the-job training shall be used. Refresher training shall occur for all involved personnel on an annual basis. Training shall be specific to the job performed, and shall include, if applicable, safe operation of cylinder handling equipment, lifting and moving of cylinders, and emergency response procedures. Inspectors shall also be trained on proper inspection procedures, including identification, description, measurement, and recording of all inspection criteria. DOE shall maintain records of training at the facility.

A code inspector shall be trained in the use of precision measuring instruments and various industrial practices/methods and interpretation of data. Code inspectors shall be tested by a certified American Society for Non Destructive Testing (ASNT) examiner. Records of this training shall be retained at the site.

X. Other

At the request of U.S. DOE, the Operating Contractor, or Ohio EPA, those parties shall meet in January of each year to discuss improvements to U.S. DOE's DUF_6 management program.

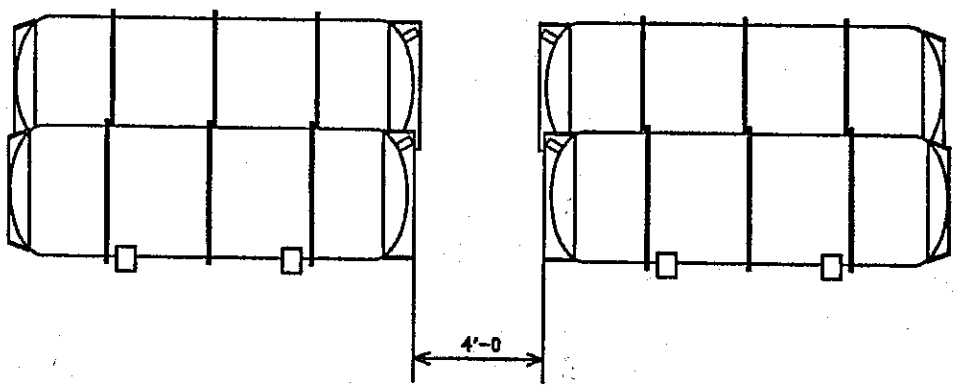


END VIEW

NOTES:

1. 14 AND 10 TON CYLINDERS WILL BE STACKED NO MORE THAN TWO HIGH, AND WILL BE SPACED ON CONCRETE SADDLES TO PROVIDE APPROXIMATELY 60 INCHES FROM THE CENTER OF ONE CYLINDER HEAD TO THE CENTER OF THE ADJACENT CYLINDER HEAD.

2. WHEN STACKED IN ROWS, THERE WILL BE APPROXIMATELY 4 FEET OF AISLE SPACE BETWEEN THE ENDS OF CYLINDERS (SKIRTED CYLINDERS SHOWN) NON SKIRTED CYLINDERS WILL ALSO HAVE APPROXIMATELY 4 FEET OF AISLE SPACE AS MEASURED BETWEEN THE ELIPTICAL HEADS.



SIDE VIEW

PORTSMOUTH RESTACKING CONFIGURATION

Table 1. PORTS DUF_6 Cylinder Inspection Frequency

Criteria	Daily	Monthly	Annually	Quad
Radiological Survey			X	
Ultrasonic Testing / Inspection (150 cylinders)			X	
Nominal DUF_6 Cylinders				X
DUF_6 Cylinders with the following defects -severe pitting corrosion -heavy rust/scale on cylinder -rust/scale in skirt of valve end -rust/scale in scale of plug end			X	
DUF_6 Cylinders with evidence of valve leakage		X		
Breached Cylinder * Daily until mitigated and annually thereafter.	*X		*X	

Attachment A to the DUF_6 Management Plan

Portsmouth Depleted Uranium Hexafluoride (DUF_6) Cylinder Ultrasonic Testing Program

The Depleted Uranium Hexafluoride (DUF_6) Management Plan, Attachment A to the Ohio EPA Director's Final Findings and Orders, requires in Section I.B.2 annual inspection of 150 DUF_6 cylinders using ultrasonic measurement techniques, as defined in Section I.B.1. Ohio EPA and the Department of Energy agree that the sample populations and sampling program for these required inspections will be as follows:

Portsmouth cylinders receiving ongoing annual tests – The following DUF_6 cylinders both generated and stored at Portsmouth having received repeated annual tests in 1999-2003 (41, see Table) will continue to be tested on a biennial basis (i.e., approximately 20 per year), such that the total population will be re-tested at least every two years:

000186	002252	006559	007650	008444	008851	100321	114310
000277	005444	006811	007691	008539	008895	111339	114541
000390	005749	006975	007725	008542	009064	111400	114555
000673	006350	007001	008027	008770	018414	111894	115218
001255	006503	007415	008434	008828	018715	113079	115219
							120555

ETTP ANSI non-compliant cylinders – The population of ETTP ANSI non-compliant DUF_6 cylinders, estimated to be approximately 3000 model "T" and older model "O" and "OM" cylinders, will receive 50 tests on randomly selected full DUF_6 cylinders annually. Of those 50 randomly tested at Portsmouth initially, 25 will be selected to receive repeat testing in succeeding years, with 25 of the balance of the population to continue to receive random sampling annually. In addition to these tests, the following cylinders will be re-tested annually: (a) the six ETTP breached cylinders, (b) the seven ETTP cylinders previously receiving repeat tests, and (c) any cylinders determined to have wall thickness less than 0.0625 thousandths (62.5 mil) along the bottom third of the cylinder.

Breached	006780	007953	101244	114798	111951	116797	
Repeats	006943	006948	009131	012027	018762	100861	101256

Balance of Portsmouth DUF_6 cylinders - The balance of the Portsmouth DUF_6 cylinder population, to include the approximately 16,000 DUF_6 cylinders historically stored at Portsmouth (other than those included in #1, above) plus the ANSI-compliant DUF_6 cylinders shipped from ETTP, will receive 67 tests per year on randomly selected full DUF_6 cylinders. This total may be adjusted as necessary to meet the requirements of Sections 1 and 2 above, within the total of 150 tests required to be performed annually.

This sampling arrangement may be modified periodically as deemed necessary and as agreed upon by Ohio EPA and the Paducah/Portsmouth Project Office, as outlined in Section X of the DUF_6 Management Plan.